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ABSTRACT

Eight papers on rural sociology which were presented at the 1969 annual meeting of the Association of Southern Agricultural Workers are included in this volume. Titles of the papers are "A Regional, Longitudinal Study of Family Adjustments in Low-Income Areas of the South" by Charles L. Cleland, University of Tennessee; "Inter-State Differences in Educational, Occupational, and Income Status Aspirations of Southern Rural Males" by John T. Pelham, Texas A&M University; "Mobility Aspirations and Expectations of Southern Youth" by Melvin Knapp, University of Georgia; "The Disadvantaged Student, Goal-Blockage, and the Occupational Aspirations of Southern Youth" by Arthur Cosby, Mississippi State University; "Some Reflections on Needed Research in Rural Sociology" by Alvin L. Bertrand, Louisiana State University; "Success Factors in a Retraining-Relocation Program Involving Mexican Americans" by David C. Ruesink and T. Brice Batson, Texas A&M University; "Pesticides Knowledge Among Retail Dealers in Selected Alabama Counties" by John E. Dunkelberger, Auburn University; and "The Sociology of Forestry: Theory and Practice" by Andrew W. Baird, Mississippi State University. The program of the rural sociology section of the meeting is also included. [Not available in hard copy due to marginal legibility of original document.] (JH)

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PROCEEDINGS

Rural Sociology Section

ASSOCIATION OF
SOUTHERN
AGRICULTURAL
WORKERS
1969

Annual Meeting, Mobile, Alabama

February 3, 1969

RC004521

PROCEEDINGS

Rural Sociology Section

ASSOCIATION OF SOUTHERN AGRICULTURAL WORKERS

1969

The papers presented at the 1969 annual meeting held in Mobile, Alabama, February 3, 1969, are included in this volume. They appear in the order in which they were presented. Abstracts of these papers are published in Proceedings, Association of Southern Agricultural Workers, 1969.

Cooperation of program participants in accepting assignments to prepare papers, preparing and presenting papers, and supplying both a copy of the paper and abstract is appreciated. Suggestions and assistance by officers and others in connection with planning the 1969 program is acknowledged.

Bill Kuvlesky
Rural Sociology Section
Secretary

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PROGRAM

RURAL SOCIOLOGY SECTION
ASSOCIATION OF SOUTHERN AGRICULTURAL WORKERS

February 3, 1969
Mobile, Alabama

Monday, A.M.

General Chairman: William P. Kuvlesky
Texas A & M University

Session 1.

8:00 -- Research Results from S-61, "Human Resource Development and Mobility in the Rural South." (Chairman: Virlyn Boyd, Clemson)

A Regional, Longitudinal Study of Family Adjustments in Low-Income Areas of the South: Charles Cleland, University of Tennessee

Inter-State Difference in Occupational, Educational, and Income Status Projections of Southern Rural Youth: John Pelham, Texas A & M University

Mobility Aspirations and Expectations of Georgia Youth: A Longitudinal Analysis: Melvin Knapp, University of Georgia

The Disadvantaged Student: Goal-Blockage, and Occupational Aspirations of Southern Youth: Arthur Cosby, Mississippi State University

Open Discussion

11:00 -- General Session - Arena, Mobile Municipal Auditorium

Monday P.M.

Session 2.

1:15 -- Sociological Research of Agricultural and Rural Problems in the South. Chairman: Dan Alleger, University of Florida

Needed Emphases in Rural Sociological Research in the Southern Region: Al Bertrand, Louisiana State University

Adjustments of South Texans Involved in a Retraining-Relocation Program: David Ruesink, Texas A & M University

Pesticides Knowledge Among Retail Dealers in Selected Alabama Counties: John Dunkelberger, Auburn University

Sociology of Forestry: Theory and Practice: A. W. Baird, Mississippi State University

Open Discussion

Session 3.

3:30 -- Development of a Permanent Rural Sociology Section in the ASAW. Chairman: Charles Cleland, University of Tennessee

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The Disadvantaged Student: Goal-Blockage, and Occupational Aspirations of Southern Youth

Needed Emphases in Rural Sociological Research in the Southern Region

Adjustments of South Texans Involved in a Retraining-Relocation Program

Pesticides Knowledge Among Retail Dealers in Selected Alabama Counties

Sociology of Forestry: Theory and Practice

A REGIONAL, LONGITUDINAL STUDY OF FAMILY ADJUSTMENTS IN LOW-INCOME AREAS OF THE SOUTH*

by

Charles L. Cleland**

It's not quite correct to equate the general establishment of rural sociological research in the South with the initiation of one project because men like Harold Kaufman, Horace Hamilton, and J. L. Charlton have been around for some time doing some very significant work. At the same time the attention given to research in this area was minimal compared with that devoted to other fields involving rural people particularly those in agriculture. Since the initiation of the S-44 project, a number of changes in the region and the nation have taken place which has focussed attention on the problems of people living in rural areas of the South and so increased the interest in this particular project. I am referring specifically to such developments as the civil rights movement, the generally improving economy of the nation, the increasing wage rates and the phenomenal shift to mechanization in agricultural production, particularly with respect to cotton.

Most of you here are familiar with the project that I am dealing with either through your own participation in some phase of it or through someone else at your station being involved. It has had so many facets, however, that I am pleased to have an opportunity to try to pull together in one place the various bits of its development which have brought it to its present stage. I made a report similar to this one in 1962 in which some detail of the organization of the S-44 Adjustment Project was given.[1]

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*Paper presented at the Southern Agricultural Workers Conference, February 3, 1969, Mobile, Alabama.

**Associate Professor of Rural Sociology, University of Tennessee.

It was noted in the earlier paper that Harold Kaufman was the prime mover in getting the first project going. It should also have been mentioned that the funds for the initial meetings of the group to develop a project proposal came from the Farm Foundation. Adjustment was the key word in that proposal and the professional people who found it of interest were primarily economists rather than sociologists. The S-44 Adjustment Project was approved as a regional project in 1958.

It took several years to get this project under way largely because there was a lack of interest on the part of the public in general and because there was some question as to the appropriateness of using funds for "agricultural" research in this way. At least part of the public's lack of interest had to do with fear that the sociologists would stir up feelings and upset the relative quiet of a situation that was potentially explosive due to inequalities based on a combination of race and economic position. Even though it was not popular, when enough of the social scientists at the southern experiment stations indicated sufficient interest to participate, the station directors gave their approval to the project. It wasn't until some years later that the subject of rural poverty, particularly in the South, was popularly seen as a problem in need of study and resolution. By that time this project had produced some very tangible results in the form of a large number of reports and a body of data which was still being analyzed.

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[1] C. L. Cleland, "A Regional Study of Adjustment in Southern Low-Income Areas." Paper presented at the ASA'' meetings, 1962, Jacksonville.

The 1958 project initially involved five states along with the Economic Research Service of USDA. These states, Arkansas, Kentucky, Mississippi, North Carolina, and Texas, had contributing projects which were felt to be closely related to the regional project's purposes but which were quite diverse in their focus. Louisiana, Alabama, Florida, and Tennessee soon joined with projects that were acceptable to the technical committee while Arkansas dropped out due to the loss of its project leader. So the S-44 project went through most of its life with eight states and ERS participating.

The dominance of the economists in the very earliest stages of the project was reflected in the emphasis on trying to determine the income and the net worth of the families studied in the tendency to equate economic position with degree of "adjustment." With the involvement of a few more sociologists there was increasing resistance to the inclusion of so much detail on the finances of the families along with greater concern that the project be truly regional in character. In countering the emphasis on economics, it was argued that at least equal attention should be devoted to social participation in formal organizations, occupation, and level of living. In discussing the concept of adjustment, it was also argued that this could be approached from the point of view of the individual and the family as well as from the point of view of the society which was a characteristic of many of the measures already being used. To get at the individual's adjustment from his own point of view, it was felt that several measures of attitude should be included. The change in composition of the committee was reflected in the types of data subsequently collected.

One person who has had a substantial influence on the project and whose role tends to be overlooked is the administrative advisor. In the case of both the S-44 Adjustment Project and its successor that person has been Dean E. V. Smith of Auburn University. Dean Smith with his background in animal husbandry didn't beg for the assignment of advisor to this committee but he knew that someone had to so he accepted the task. It didn't take him long to see the potential value of the project and he became very active in its encouragement and support. He kept the committee aware of the opportunity to make a name for rural sociology in the South and he stressed the importance of active participation in committee functions. I remember well getting called into my station director's office to learn that Dean Smith didn't think much of my excuse for missing the annual meeting in 1960. The arrival of a second child just two weeks before should have been just a part of normal routine at home rather than an event which would interfere with the committee's work. He encouraged the setting of meaningful deadlines and the completion of reports to get the results to the public. He was also sensitive to developments elsewhere in the nation that might have some bearing on the committee's activities. This was evident when he started the exploration of the possible relation of the committee to the newly formed Office of Economic Opportunity early in 1965. More of this later! In short, Dean Smith has made and is making a very substantial contribution to this project.

The discussions about making the project truly regional in character first got a commitment from the participants that there should be a certain minimum of strictly comparable information collected from the respondents in each of the states. This resulted in a regional schedule to which each of the states might add questions but from which none were to be deleted. Since the questions were going to be used over such a wide geographic area, you can well imagine the wrangling about the precise wording of each of the questions to be included. The abundant possibilities for misinterpretation by interviewers in seven different states who had been selected and trained in different ways by seven different project leaders gave rise to the expression of a need for some means of assuring that the respondents interpreted the questions in approximately the same way so their answers would be reasonably comparable. This was resolved by preparing a detailed guide for the interviewers which explained the intent of all (well, almost all) of the questions about which there was any ambiguity. This guide proved to have been well worth the effort that John Dunkelberger, then of Mississippi, put into it.

At the same time the discussion about what should go into the interview schedule was going on, there was intense discussion about just how the comparable data collected in the different states could be combined to make generalizations about the southern region. This was finally resolved by agreeing that the task of selecting the sample for each of the seven states be given to North Carolina with the stipulation that the sample be self-weighting for the states and the sub-regions as well as for the seven-state region. The whole of the sample design and the procedures used was mimeographed and sent to each of the participating researchers along with maps detailing the sample areas selected and specific instructions as to how they were to be used.

Each state then had the responsibility of reproducing the interview schedules it was going to use, selecting the interviewers, training them, collecting the information and coding and punching the data into data processing cards. Each state was then to duplicate its cards and send a set to each of the other states. In this way regional analysis could be carried on at each of the participating stations.

At this point decisions had to be made about how the analysis was to be carried out. It was at this time that the commitment of the individual researchers to the regional project became clearly apparent. During the discussions there was evidence of awareness of the wealth of information that had been collected and of the need to exploit that information through analysis to the fullest extent possible. To achieve this exploitation, the various aspects of the analysis were assigned to the participating researchers according to their interests and the facilities available to them at their home stations. Needless to say, there were some areas of information in the data which were not of particular interest to any of the researchers so it became necessary to assign these arbitrarily. There was willing acceptance of such additional work.

By the time of the termination date in 1964 for the S-44 Adjustment Project, there had been some ninety-four manuscripts of one sort or another prepared and a number of these had been published.[2] There were numerous papers given at professional meetings and there were promises of a number of additional manuscripts based on analysis which was essentially complete. Requests for copies of some of these papers continue to come in. One of the published articles dealt specifically with the problems of conducting regional research noting in particular the problems of personnel continuity, professional interest, organizational structure, and the impact of minor decisions on the comparability of data from the various states.[3] The turn over in personnel created some real problems in achieving the project objectives.

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[2] Carolyn A. Morgan and Virlyn A. Boyd, Annotated Bibliography of Publications and Reports Resulting from Southern Regional Cooperative Research Project S-44: Factors in the Adjustment of Families and Individuals in Low-Income Rural Areas of the South. A. E. 290, Department of Agricultural Economics.

As with most regional projects, I suspect, there was a considerable discussion as to whether or not it should be continued by way of revision or the development of a new project. Sentiment seemed to be toward an extensive revision until Dean Smith, noting just how extensive the revision was to be, indicated that the committee which must approve the proposal was more inclined to approve new projects than revisions.

On the basis of Dean Smith's observation, a new project was proposed with three objectives. The first was to follow-up the households studied in the earlier project with a shift from the static description of the situation to a more dynamic description of the processes of change through which the families had gone during the intervening period. The second objective was to follow the migrants from the households included in the earlier study to learn more of the intergenerational adjustment in such families. The second objective was later dropped when it became apparent that the persons most interested were no longer part of the regional project personnel nor were they in a position to exploit data that the participants might obtain.

The third objective was to learn more of the aspirations and expectations of the youth in these low-income areas insofar as education and occupation were concerned. At first it was anticipated that the areas for gathering the data for the third objective would be primarily the same as those in which data for the other parts of the project had been obtained but subsequent discussion and somewhat more ambitious plans called for selection of areas with specific characteristics which the original sample areas could not satisfy. In addition, a number of the states interested in participating had not been involved in the S-44 Adjustment Project and thus had no previously selected areas for study. As a result the areas selected bore little relation to the original sample areas except that they did keep the focus on low-income.

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[3] Charles L. Cleland, "Regional Project Organization and Data Comparability," Rural Sociology, 29 (June, 1964), pp. 194-199.

It is conceivable that these objectives might have been modified somewhat and perhaps slanted more toward an "applied" character if the contact with the Office of Economic Opportunity had come eighteen months sooner than it did. A seminar with officials of OEO was held in Washington in February, 1965. At least a seminar was held for which OEO paid expenses and at which from time to time one or more OEO officials were present. Dean Smith was largely responsible for this seminar coming about. He felt that no group had more reliable and useful data on the situation of the low-income rural families in the South and he thought that it ought to be put to the best possible use through this new agency which had poverty as its specific concern. At the time of the seminar the group came as something of a surprise to the OEO officials because it came offering whatever assistance it could in contrast to the many other groups and individuals who were approaching OEO only for the funds that it might be willing to supply.

In the course of the seminar the OEO officials were inquiring how the researchers might be used to further their objectives since up to five percent of the Community Action Program funds could be used for research. We soon found that our definitions of research differed rather substantially but we did agree that much of the research information that had been accumulating over the years was now fugitive and something should be done to establish a retrieval system to prevent such loss. More immediately the researchers were asked to synthesize the findings of the S-44 Adjustment Study before they get lost. Our chairman for this session, V. A. Boyd, was prevailed upon to take this task, with OEO funding, even though he had not been an active participant in the earlier project. He has some interesting stories about his relation with OEO for getting that piece of work done--and we think we have problems of communication!

At the initiation of the S-61 Adjustment Process Project an attempt was made to get all of the thirteen states in the southern region involved since all of them have problems with low-income areas. For various reasons the states of Oklahoma, Arkansas, Kentucky, and Virginia could not participate. Of the other states (Alabama, Mississippi, North Carolina, Tennessee, and Florida), five have been concerned with the restudy of the families included in the Adjustment Project and six (Alabama, Georgia, Louisiana, Mississippi, South Carolina, and Texas) have been concentrating on the youth study.

If it sounds at this point as though the Adjustment Process Project is really two projects in one, this has indeed become the case. The restudy group has gone through the routine of developing a common minimum interview schedule of questions (including almost no economic information), a common code for the classification of the answers to the questions, collection of the data and exchange of the punched data cards. The responsibility for the analysis has also been divided and assigned. Florida's case is a little different from the others in this instance since none of the original sample came from that state. Using the regional interview schedule, D. E. Alleger developed an instrument designed to obtain information for the same period of time for a sample selected for the Adjustment Process Project. His analysis will necessarily be somewhat different from that of the other states but it does provide material for some useful comparisons. Analysis of the data in the other states is well under way and some reports should be forthcoming shortly.

The youth study group has been very active with the energetic leadership of Bill Kuvlesky, who is currently chairman for the whole project. A tremendous amount of information from youth in school situations that differ widely has been collected. A common data collection instrument was developed utilizing measuring devices which had been developed in other regions as well as some developed by members of the group. A large number of reports from this work have already appeared with Texas and Bill Kuvlesky leading the way. A follow-up survey of many of the sophomore students contacted the first time around is under way.

During the course of S-44 and S-61 projects our administrative advisor has at times found it necessary to remind the group as to what its major purpose was, at least so far as the Experiment Station directors were concerned. Since a number of the rural sociologists involved in the projects had little contact during the year with others in the profession, there was a strong tendency to take advantage of the opportunity to open discussions about teaching, extension activities or other (unrelated) research, including attempts at trying to determine what other research needs existed in the region. For example, there was some discussion on more than one occasion about the involvement of rural sociologists in the new defunct Agricultural Economics and Rural Sociology Section of the ASAW. Dean Smith wanted to make certain that we didn't slight the deliberations on the regional project to take up such extraneous matters. We could see his point very well but the other matters did sometimes seem very pressing.

It was largely the interest of the members of the technical committee in having some means for discussing the wide variety of concerns relating to research in rural sociology that started the exploration about interest in a Farm Foundation supported research committee. This seemed very reasonable, first, since it was a group with such support that developed the initial regional project proposal and, second, there are similar committees in other areas of the nation. The Southern Rural Sociology Research Committee held its first meeting just a year ago and will be meeting again next week in Atlanta. It has provided an opportunity to explore the whole field of rural sociology and the social problems of the South and then to set priorities for their study. It has also broadened the base of sociologists involved in discussions of such research and so has taken some pressure off of the regional technical committee to concern itself with matters not directly related to the research project. Beyond that the SRSRC deliberations can be very useful to the technical committee as it approaches the termination date for the current project by calling attention to other areas of research need along with an expression about its relative importance. Since there is a substantial overlap in membership, communication between the two committees should be good.

The S-61 Adjustment Process Project is now approaching the end of its five-year existence. It appears likely that there will be a one-year extension for the purpose of completing the planned analyses and the writing and publication of the results of the study but the point has been reached for making decisions about further regional research by the group involved in this project. Assuming that there will be a continuing effort by this group, and I think there is strong sentiment for such continuation, it seems likely that at least two separate proposals for regional projects will be developed. One of these will continue the emphasis on youth, possibly with additional attention to the educational systems in which they are involved. The other proposals' direction is a little more difficult to anticipate but the emphasis may very well shift from the family to the larger social setting in which it exists. More specifically, the attention may be toward the social structure in the areas with low-income in the search for clues as to how best to serve the needs of families and individuals located in such areas. At any rate, I am anticipating that the effective work of this regional committee will continue in the training of young rural sociologists, in helping to gain recognition for the discipline in the South, and in making a contribution to the understanding and subsequent resolution of social problems in the region.

INTER-STATE DIFFERENCES IN EDUCATIONAL, OCCUPATIONAL, AND INCOME STATUS ASPIRATIONS OF SOUTHERN RURAL MALES*

John T. Pelham
Texas A&M University

One of the chief functions of regional sociological research efforts is to ascertain the extent to which generalizations pertaining to key variables may be stated as characteristic of certain members of a region, irrespective of state residency. In most cases, the generalizations so made are in understandably broad terms and subject to a myriad of localized exceptions. Regardless of these limitations, however, the ability to generalize certain social traits to members of a given population is of great value to the researcher and action agent alike.

The prime purpose of this paper is to report a portion of the results of a regional investigation designed to ascertain the projections which youth make in several key status areas.[1] More specifically, our purpose is to conduct an inter-state comparison of the level of educational, occupational, and income aspirations of low-income rural males in Texas, Georgia, and Mississippi.

A secondary purpose of this paper will be to add needed information to the literature pertaining to the various components of the aspirational frames of reference of youth.[2]

Merton, in his conceptual framework for the study of anomie and deviant behavior, proposes that the individual possesses a more or less integrated set of societally prescribed goals which comprise his "frame of aspirational reference."[3] For two quite basic reasons, different frames of reference might vary indeterminably in their individual character. First, the significant goals which people deem worth striving for vary from person to person. Secondly, the ordering of goals in a hierarchy of relative importance will, undoubtedly, differ between individuals. Our focus here will be on the desired levels of educational, occupational, and income attainment which, in part, comprise the frames of aspirational reference of our respondents. Because the frames of aspirational reference are comprised of many different status goals, our concentration on education, occupation, and income will entail a restriction to a partial frame of reference.[4] However, in view of the dearth of research literature which deals with more than one of the important components of the frame of reference, our study makes an important contribution even with this restricted approach.[5]

Three analytical elements are present in Merton's discussion of the frame of aspirational reference.[6] The individual has (1) a set of goals, (2) which are more or less integrated, and which together form his (3) frame of aspirational reference. Our focus in this paper will be strictly on the goal element as it relates to aspirations for placement in the educational, occupational, and income hierarchies.[7] The analytical scheme to be used in examining the goal element is taken from a publication by Kuvlesky and Bealer.[8] Our discussion here will be limited to a definition of terms and a brief outline of the analytical distinctions involved.

Two types of status orientations may be distinguished--aspiration and expectation. Aspiration refers to those statuses (goals) which are desired, while expectation refers to those anticipated statuses which may or may not be desired.[9] Although data are available enabling us to empirically evaluate both these important projective phenomena for our respondents, the scope of this paper restricts us to only one--aspirations. Whether we speak of aspirations or expectations, two analytically distinct elements are involved.[10] First, there is the object of orientation, or the particular status which is desired or expected. Secondly, there is the element referred to as the strength of orientation toward a particular object. Our focus will be solely on the status object element.

Review of Relevant Research

The general area of the status orientations of youth has been quite extensively researched--especially where occupational and educational orientations are concerned.[11] Unfortunately, however, only a small number of these have approached the phenomenon with the multi-dimensional view alluded to by Merton and the one chosen for this paper. In fact, only three known reports deal with the orientations of youth in three or more goal-areas,[12] while fewer than ten have studied youths' orientations in two areas.[13] The fact that none of these researches incorporated an inter-state comparison negates their utility in terms of the primary objective of this paper.

In terms of the secondary objective, it may be said that little is known concerning the relative levels of youths' aspirations in these three important frame components. Only one of the reports cited above has direct application to the data reported herein.[14] Kuvlesky and Upham, in a report of the occupational, educational, income, and residence aspirations of Texas Negro and white males, conclude that a majority of males of both races had high goal levels for all the areas studied.[15] In terms of our report, only two major racial differences are notable in the report of Kuvlesky and Upham. First, Negroes were found to have slightly lower aspirations for income and occupational attainment than whites. Secondly, whites had significantly lower educational goals than the Negroes. In a North Carolina study, Drabick found that males of both races had high aspirations for occupational and educational attainment.[16] His findings also indicate that Negroes had higher educational and lower occupational aspirations than did whites.

In terms of interstate generalizations, these two reports indicate the following tentative conclusions relative to low-income males in the rural South:

(1) Males of both races have relatively high aspirations for subsequent status attainment.

(2) Negro males tend to have higher educational and lower occupational (and income) goals than do whites.

Source of Data and Research Procedures

Data for this analysis were obtained from a population of high school sophomores in three Texas counties, two Georgia counties, and two Mississippi counties.[17] These counties were selected because they are predominantly rural[18] and have disproportionately high percentages of Negroes and low-income families compared with their respective states and the United States. The data were collected during the spring of 1966 using a standard 18-page schedule which included questions pertaining to a wide range of status orientations, as well as many pertinent independent variables. Only the male segment of the sample will be considered in this analysis. Complete data were available for 250 white and 205 Negro males, Table 1.

Table 1. Racial Composition of Final Sample--By State

State	Negro	White
Texas	90	139
Georgia	102	84
Mississippi	13	27
Total	205	250

Those questions which served as indicators of educational, occupational, and income status aspirations are excerpted and presented in Appendix A. Suffice it to say here, however, that each of the three indicators requested the student to respond in terms of his ultimate goal in that particular area of endeavor, assuming complete freedom of choice.

The raw data representing each goal was originally coded into variable numbers of categories.[19] In order to simplify our analysis, we have standardized the number of status level categories for all four goal-areas in a way similar to that employed by Kuvlesky and Upham.[20] A set of four rank-ordered classes was established indicating the following relative goal levels: *very high*, *high*, *moderate*, and *low*. This standardization is graphically presented in *Diagram 1*.

The analysis and findings are presented in three sections. Each section contains an inter-state comparison, by race, of the respondents' level of aspiration for that particular goal-area. The chi-square values in each case represent the results of tests of significance of inter-state variance.

Diagram 1: Four Levels Into Which Coded Responses Were Collapsed

Goal-Level	Education	Occupation	Income (dollars)
Very High	Four Years of College+	Professional, Technical, Kindred and Glamour	15+
High	Four Years of College	Manager, Official, Farm Owner or Foreman	7 to 15
Moderate	High School + Additional Formal Training	Clerical, Sales, Skilled Worker	3 to 7
Low	High School Graduate or Less	Operative, Laborer, Domestic Service	Less than 3

Analysis

Educational Aspirations

An examination of the data presented in Table 2 reveals a general similarity among the educational aspirations of Negro males across the three states. A majority of the boys in all three states had set college or university degrees as their goal. Whereas, only small proportions indicated a desire to terminate their education with a high school diploma or less.

While inter-state differences were not found to be statistically significant, one variation is noteworthy. Georgia males tended to indicate lower educational goals than did those from Mississippi or Texas. While 69 percent and 63 percent of the Mississippi and Texas males, respectively, aspired to baccalaureate or higher degrees, only 53 percent of the Georgia youth had such high aspirations. Conversely, almost one-half of the Georgia males desired to end their schooling short of the baccalaureate level, while approximately one-third or less of the Mississippi and Texas males had these relatively low goals.

Distinct inter-state differences exist for educational aspirations of the white portion of our sample, Table 3. An examination of this data reveals that while levels of educational goals are uniformly high, the Mississississi respondents' were markedly higher than the others. Approximately nine in ten of the Mississippi males desired to complete at least four years of college or university work as compared with less than 60 percent of either of the other two state groups.

Table 2. Educational Aspirations of Negro Rural Males--By State

Level	Mississippi (13)	Georgia (102)	Texas (90)
	percent		
Very High	38	22	39
High	31	31	24
Moderate	23	37	32
Low	8	10	4
TOTAL	100	100	99

$x^2 = 8.63$ d.f. = 6 $P > .10 < .20$

Table 3. Educational Aspirations of White Rural Males--By State

Level	Mississippi (27)	Georgia (14)	Texas (139)
	percent		
Very High	48	14	17
High	41	37	42
Moderate	7	35	27
Low	4	13	14
TOTAL	100	99	100

$x^2 = 21.14$ d.f. = 6 $P < .01$

An analysis of the detailed breakdown of educational aspirations, Table 8, aids in understanding this significant finding. While less than one-fifth of the males in Georgia and Texas desired to complete additional studies after graduating from a college or university, almost 50 percent of the Mississippi respondents expressed this lofty goal. Little or no inter-state difference is observed in the proportions desiring college graduation; however, a very sharp difference exists in those proportions desiring to graduate high school and take vocational training. Almost one-third of the Georgia respondents desired to further their education in this manner as compared with one-fifth of the Texas respondents and none of the Mississippi males.

A brief comparison of Tables 2 and 3 indicates that a majority of all respondents hold relatively high educational goals, regardless of race or state of residence. The comparison further reveals that the aspirations of the Georgia respondents are markedly similar, irrespective of race. The same generalization may be said for the Texas respondents. While a tendency exists among Negroes in both states to have slightly higher educational goals than do the whites in the respective states, the differences are slight and have been analyzed in detail and reported elsewhere.[21] There is, however, one noteworthy racial difference. White males from Mississippi had higher educational goals than did their Negro counterparts.

Therefore, the data indicates that a greater racial difference in educational aspirations occurs among the Mississippi respondents than among either of the Georgia or Texas groups and that the differences are in the oppoiste direction from those in Georgia and Texas.

Occupational Aspirations

The occupational aspirations of Mississippi, Georgia, and Texas Negro males are presented in Table 4. While the inter-state differences are not statistically significant ($P < .20$), there are variations which warrant examination. The most striking of these differences occurs at the Moderate level. While one-half of the Mississippi respondents desired occupational attainment at this level, only one-third and one-fifth, respectively, of the Georgia and Texas youth desired these levels of occupation. An examination of the detailed findings, Table 9, illuminates these differences. Mississippi youth were much more likely than either the Georgia or Texas youth to desire occupations classified as "Skilled Labor."

An examination of the data in Table 5 reveals that a clear majority of the white youth from all three states indicated a desire for relatively high occupational attainment. The only inter-state difference of note is the tendency for greater proportions of Georgia and Texas youth to desire occupations at the moderate level than their Mississippi cohorts. It is also interesting to note that, as was the case earlier with education, Mississippi youth are more likely than those from Georgia and Texas to have "high" and "very high" occupational aspirations.

A comparison of the data in Tables 4 and 5 reveals that the white segment of all three state samples had higher occupational aspirations than did the Negroes. This is especially true with the Mississippi and Texas samples when the two highest levels of aspiration are combined. Conversely, when one considers the lowest level of aspiration, more Negroes than whites are included; especially again in the Mississippi and Texas samples.

Table 4. Occupational Aspirations of Negro Rural Males--By State

Level	Mississippi (13)	Georgia (102)	Texas (90)
	- - - - - - - - - - - -	percent - - - - - - - - - - - -	
Very High	31	46	50
High	0	5	3
Moderate	54	32	21
Low	15	16	25
TOTAL	100	99	99

$x^2 = 8.90$ d.f. = 6 P > .10 < .20

Table 5. Occupational Aspirations of White Rural Males--By State

Level	Mississippi (27)	Georgia (84)	Texas (139)
	- - - - - - - - - - - -	percent - - - - - - - - - - - -	
Very High	59	40	51
High	26	19	17
Moderate	11	30	27
Low	4	11	5
TOTAL	100	100	100

$x^2 = 8.55$ d.f. = 6 P > .20 < .30

One very interesting racial difference is brought out by inspecting the detailed data in Table 9. White youth in all three states were much more likely than their Negro counterparts to desire a career as a farmer or farm manager. This is particularly true among the Mississippi respondents, where almost one-fourth of the whites and none of the Negroes desired occupations related directly to production agriculture.

Income Aspirations

The income aspirations of the Negro males sampled in the three states are uniformly high and do not differ significantly in a statistical sense, Table 6. A majority or near-majority of the youth in all three states desired to earn in excess of $15,000 annually.

The data presented in Table 7 depict the income aspirations of the white segment of the state samples. The single most important aspect of these data is the striking similarity among the respective states. Equally high proportions of the respondents hold aspirations for annual incomes in excess of $15,000. At no income level does the percentage difference between the highest and lowest state exceed ten. When the two highest income ranges are grouped together, 85 percent of all the respondents in each state are included.

The chief racial difference in income aspirations is among the Mississippi respondents, Tables 6 and 7. While uniformly high proportions of both races in each of the states had "very high" income goals, Mississippi Negroes were more likely than their white counterparts to desire incomes in the $3,000 to $7,000 range. Conversely, whites were more likely than Negroes

Table 6. Income Aspirations of Negro Rural Males--By State

Level	Mississippi (13)	Georgia (102)	Texas (90)
	percent		
Very High	54	56	47
High	8	23	26
Moderate	31	14	12
Low	8	8	16
TOTAL	101	101	101

$x^2 = 7.86$ d.f. = 6 $P > .20 < .30$

Table 7. Income Aspirations of White Rural Males--By State

Level	Mississippi (27)	Georgia (84)	Texas (139)
	percent		
Very High	59	49	50
High	26	37	35
Moderate	11	13	12
Low	4	1	4
TOTAL	101	101	101

$x^2 = 2.41$ d.f. = 6 $P > .80 < .90$

to aspire to incomes in the $7,000 to $15,000 bracket.

Summary

These findings indicate that Negro and white youth, regardless of state of residence, have relatively high educational, occupational, and income goals. Only one major inter-state variation was observed--educational aspirations of white males (see Summary Table). The educational aspirations of the white Mississippi youth were significantly higher than were those of their Georgia and Texas counterparts.

Summary Table of Chi-Square Results

Goal-Area	Race N	 W
	---sign. at .05 level---	
Education	No	Yes
Occupation	No	No
Income	No	No

Not only were the educational goals of the white Mississippi youth higher than their white counterparts, they were also markedly higher than were those of the Negro segment of the Mississippi sample. In fact, the only racial differences of note may be attributed to the fact that the white youth in the Mississippi sample had higher aspirations in all three goal-areas studied than did their Negro cohorts.

One other inter-state variation, while not statistically significant, deserves comment. Mississippi Negroes were found to have somewhat lower occupational aspirations than did the Negroes in Georgia and Texas. This was due primarily to the fact that the Mississippi respondents desired occupations classified at the Moderate level in much higher proportions than did the respondents from the other states.

Virtually no inter-state differences were observed in reference to the income aspirations of Negroes or whites.

Conclusions and Implications

Conclusions

The conclusions to be drawn from these findings are limited by the nature of the population studied--Negro and white youth from low-income areas of the rural South. Generalizations evolving from this study are further restricted by the paucity of past studies dealing with more than one status-area and/or which have drawn their samples from more than one state. However, the findings of this study, supported by findings of other status orientation studies, gives us a relatively firm basis for offering the following generalizations about the status aspirations of rural males living in low-income regions of the South:

(1) Relatively high proportions of both Negro and white males desire to achieve high levels of education, occupation, and income.

(2) White males tend to have higher occupational and income aspirations than do Negroes, while Negroes have higher educational aspirations than do whites.[22]

(3) Of the three status aspirations studied, income appears to be the most amenable to regional generalizations. That is, less inter-state variation was observed for income aspirations than for either education or occupation.

Implications

Research. The most obvious implications of this study are in terms of the additional research efforts which are needed in the broad area of the status aspirations of youth. More specifically, the following needs appear to be most crucial to the continuance of the kind of research instigated in this paper.

In terms of regional research efforts, the most obvious need is for studies incorporating data from a wider range of states within a geographic region. Such broadly-representative studies might focus on one or more status variables, but should include a wide representation of the area or region to which generalizations are to be extended.[23]

Further research, both regional and otherwise, is needed which focuses on more than one element of the frames of aspirational reference of youth. The most notably neglected element of the three studied herein has been income. However, there are other important areas in which youth make projections for future attainment. The ways in which these interrelate is an area of research almost untouched by sociologists to date.

Policy and social action. While we recognize that much must be done to supplement these findings before proposing a wide range of in-depth policy and action implications, we feel justified in suggesting the following needs pertaining specifically to low-income regions of the rural South.

The high incidence of relatively high goals for educational, occupational, and income attainment has serious implications for the action agent and policy-maker alike. While setting high goals for one's self is common practice and a significant aspect of the American Dream, high goals are not always attainable through legitimate means. It is important, therefore, that youth be made aware of the barriers to success. This is not to imply that youth should be urged to lower their high goals, it is simply to say that youth must be prepared to face frustrations without the accompanying dread of social failure.

In this connection, the finding that large proportions of these youth had relatively high income aspirations suggests that educators and others must prepare them for the pursuit of income goals through the institutionalized norms which are held as legitimate avenues to success. This preparation revolves primarily around high levels of good quality education, through which the individual is better able to obtain prestigeful, well-paying occupations. This means-end schema linking educational, occupational, and income goals is generally regarded as that which is the socially acceptable avenue to success[24] and should be stressed as such by the formal and informal educational agencies which deal with youth.

Footnotes

[1] In addition to those on which this report is based, orientations for future residence, marital, and familial status were also included.

[2] Robert K. Merton, *Social Theory and Social Structure*, rev. and enl. ed., New York: The Free Press of Glencoe, 1957, pp. 132-33.

[3] *Ibid.*

[4] William P. Kuvlesky and W. Kennedy Upham, "Social Ambitions of Teen-Age Boys Living in an Economically Depressed Ares of the South: A Racial Comparison." Paper presented at the Southern Sociological Society meetings, Atlanta, March, 1967, p. 4.

[5] The pancity of research literature will become more evident in the section reserved for a review of relevant literature.

[6] John T. Pelham, "An Analysis of Status Consistency of the Projected Frames of Reference: A Racial Comparison of Males in Selected Low-Income Areas of the Rural South." Unpublished Master's thesis, Department of Agricultural Economics and Sociology, Texas A&M University, 1968, p. 14.

[7] For an elaboration of the integration element, see *Ibid.*, pp. 18-20.

[8] William P. Kuvlesky and Robert C. Bealer, "A Clarification of the Concept 'Occupational Choice'," *Rural Sociology*, 31 (September, 1966), pp. 265-76.

[9] *Ibid.*, pp. 269-70.

[10] For further elaboration of these important distinctions, see *Ibid*.

[11] William P. Kuvlesky and John T. Pelham, *Occupational Status Orientations of Rural Youth: Structured Annotations and Evaluations of the Research Literature*, College Station: Texas A&M University, Department of Agricultural Economics and Sociology, Technical Report 66-3, September, 1966 and W. P. Kuvlesky and George W. Ohlendorf, *A Bibliography of Literature on Status Aspirations and Expectations: Educational, Residence, Income, and Family Orientations*, College Station: Texas A&M University, Department of Agricultural Economics and Sociology, Information Report 66-7, September, 1966.

[12] Kuvlesky and Upham, *op*. *cit*.; Pelham, *op*. *cit*.; and E. Grant Youmans, et. al., *After High School What? Highlights of a Study of Career Plans of Negro and White Rural Youth in Three Florida Counties*, Gainesville: University of Florida, Cooperative Extension Service (1965).

[13] Lawrence W. Drabick, The Vocational Agricultural Student and His Peers, Raleigh: North Carolina State University, Departments of Agricultural Education and Rural Sociology, Educational Research Series No. 1, August, 1963; Russell Middleton and Charles M. Grigg, "Rural-Urban Differences in Aspirations," Rural Sociology, 24 (December, 1959), pp. 347-54; J. Kenneth Morland, "Educational and Occupational Aspirations of Mill and Town School Children in a Southern Community," Social Forces, 39 (December, 1960), pp. 169-75; Irwin V. Sperry and Vira R. Kivett, Educational and Vocational Goals of Rural Youth in North Carolina, Greensboro: North Carolina Agricultural Experiment Station, Technical Bulletin No. 163, November, 1964; Lee G. Burchinal, "Differences in Educational and Occupational Aspirations of Farm, Small Town, and City Boys," Rural Sociology, 26 (June, 1961), pp. 107-21; Harry K. Schwarzweller, Sociocultural Factors and the Career Aspirations and Plans of Rural Kentucky High School Seniors, Lexington: Kentucky Agricultural Experiment Station, Progress Report 94, September, 1960.

[14] Unfortunately, both the reports of Pelham and Youmans had a focus that negates their utility in terms of this review. Pelham's thesis does not focus on an analysis of goal levels as such; rather, on an examination of the degree of consistency between goal-areas, Pelham, op. cit. Youmans and his associates studied youths' aspirations in one goal-area and expectations (plans) in two others, Youmans, et. al., op. cit.

[15] Kuvlesky and Upham, op. cit. Goals for urban residence were considered here as being "high" goals in that they represented a greater magnitude of change than goals for either rural or small town residence.

[16] Drabick, op. cit.

[17] These data evolve from Southern Regional Project 5-61. The Texas project is under the leadership of William P. Kuvlesky. John D. Kelley and Calvin L. VanLandingham provided leadership to the Georgia and Missississi projects, respectively.

[18] One Georgia county is included even though it is 27.2 percent urban because it meets or exceeds the minimum requirements established by the subcommittee on sample selection in terms of proportions of Negroes and low-income families in the population.

[19] Percentage distributions of the raw data as originally coded appear in Appendix B.

[20] Kuvlesky and Upham, op. cit.

[21] Pelham, op. cit. and George W. Ohlendorf, "Educational Orientations of Rural Youth in Selected Low-Income Counties of Texas." Unpublished Master's thesis, Department of Agricultural Economics and Sociology, Texas A&M University, 1967.

[22] The Mississippi sample in our study does not support this finding. However, the Georgia and Texas data lead to this conclusion. Further support is found in: Kuvlesky and Upham, _op. cit._; Drabick, _op. cit._; and and, to some extent, in Middleton and Grigg, _op. cit._

[23] For a recent example, see Michael F. Lever, "Selected Occupational Status Projections of Southern Youth: An Analysis by Sex, Race, and Socio-Economic Status." Unpublished Master's thesis, Department of Agricultural Economics and Sociology, Texas A&M University, 1969.

[24] Talcott Parsons, "Full Citizenship for the American Negro? A Sociological Problem," _Daedalus_, 94 (Fall, 1965), pp. 1009-54.

APPENDIX A

Excerpts from Research Instrument

The following indicators of status aspirations are presented exactly as they appeared in the questionnaire.

15. (a) If you were completely free to choose any job, what would you most desire as a lifetime kind of work? (In answering this question give an exact job. For example, do not say "work on the railroad" but tell us what railroad job you would like to have.) Write your answer in the box below.

ANSWER:

25. If you could have as much education as you desired and were completely free to choose, which of the following would you do? (Circle only one number.)

1. Quit high school and never go to school again.
2. Quit high school and take some vocational training for a job.
3. Graduate from high school and never go to school again.
4. Graduate from high school and then complete a business, commercial, nurses training, or some other technical school program.
5. Graduate from a junior college.
6. Graduate from a college or university.
7. Complete additional studies after graduating from a college or university.

26. How much money would you desire to make a year if you could have any amount you desired? (GIRLS: If you plan to marry, indicate the amount of money you would like your husband to make.) Place your answer in the following box:

$ ______________________ a year

Appendix B

Supplementary Tables

Table 8. Educational Aspirations of Negro and White Rural Males--By State

Educational Level	NEGRO			WHITE		
	Mississippi (13)	Georgia (102)	Texas (90)	Mississippi (27)	Georgia (84)	Texas (139)
	- - - - - - - -	- - - - - - - -	- - - - - - - -	percent- - - - - - - -	- - - - - - - -	- - - - - - - -
Quit High School	0	0	0	0	1	1
Quit High School Vocational Training	8	5	3	0	6	3
Graduate High School	0	5	1	4	6	9
Graduate High School Vocational Training	15	33	24	0	31	18
Graduate Junior College	8	4	8	7	5	9
Graduate College	31	31	24	41	37	43
Complete Graduate Study	38	22	39	48	14	17
TOTAL	100	100	99	100	100	100
	$x^2 = 12.71$	d.f. = 12	P .50	$x^2 = 29.06$	d.f. = 12	P .01

Table 9. Occupational Aspirations of Negro and White Rural Males--By State

Occupational Level	NEGRO Mississippi (13)	NEGRO Georgia (102)	NEGRO Texas (90)	WHITE Mississippi (27)	WHITE Georgia (84)	WHITE Texas (139)
	- - - - - -	- - - - - -	- - - - - -	percent - - - -	- - - - - -	- - - - - -
Professional and Technical	15	30	36	56	31	42
Glamour	15	17	14	4	10	10
Managerial	0	0	1	4	7	6
Clerical and Sales	8	3	10	0	5	4
Skilled Laborer	46	29	11	11	25	22
Operatives	0	15	19	4	8	4
Unskilled Laborer	15	2	7	0	2	1
Farmer, Farm Manager	0	5	2	22	12	12
TOTAL	99	101	100	101	100	101
	$x^2 = 27.03$	d.f. = 14	P .05	$x^2 = 13.23$	d.f. = 14	P .90

Table 10. Income Aspirations of Negro and White Rural Males--By State

Income Level	NEGRO			WHITE		
	Mississippi (13)	Georgia (102)	Texas (90)	Mississippi (27)	Georgia (84)	Texas (139)
	- - - - - - - - - -	- - - - - - - - - -	- - - - - - - - - -	percent - - - - - - - -	- - - - - - - - - -	- - - - - - - - - -
Less than $1,000	0	0	3	0	0	1
$1,000-1,999	0	0	4	0	0	1
$2,000-2,999	8	8	8	4	1	1
$3,000-4,999	15	7	6	4	4	4
$5,000-6,999	15	7	7	7	10	8
$7,000-8,999	0	6	6	0	17	9
$9,000-14,999	8	17	20	26	20	26
$15,000-29,999	15	30	24	52	37	36
$50,000 or more	39	26	22	7	12	14
TOTAL	100	101	100	100	101	100
	$x^2 = 16.16$	d.f. = 16	P .50	$x^2 = 12.95$	d.f. = 16	P .90

MOBILITY ASPIRATIONS AND EXPECTATIONS OF SOUTHERN YOUTH

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Introduction

Inevitably, it can be said that one moves from childhood to adolescence to adulthood and to old age as these age gradations are defined by societal members. These are as Levy (1966, Volume 1) has noted the basic age grade distinctions of any society. The position that has been taken in this paper is that adolescent mobility aspirations and expectations are a major aspect of the movement from adolescence to adulthood. Furthermore, the assumption has been that in this particular transitional period the aspirations and expectations of greatest importance are the adolescent's occupational aspirations and expectations. This is especially true for the modern industrial society since the framework for social mobility in this type of society is its occupational structure. What is meant here is that whether the transition from adolescence to adulthood is relatively successful or unsuccessful depends to a large extent upon the occupational position obtained. Thus, an important concern for students of human behavior has been to attempt to understand the role occupational aspirations and expectations play in the transition from adolescence to adulthood.

A major hypothesis concerning the role that occupational aspirations and expectations have played is that they influence occupational attainments. Past research on this question, however, has been rather inconclusive. Studies by Sewell and Shah (1967) and Haller and Miller (1963) moderately support the hypothesis whereas a study by Bealer and Kuvlesky (1967) reports that only a weak positive relationship exists between occupational aspiration and attainment. Bealer and Kuvlesky conclude that occupational aspiration has been a rather poor predictor of occupational attainment.

Fortunately, Haller (1968) suggests a way in which this problem can be handled. Starting with Lewin's (1964) famous equation that behavior is both a function of the person and his environment (B-F(P,E) one can look at occupational attainment as both a function of level of aspiration and level of facilitation offered by the environment of the aspiration (both intra- and extra-personal elements). The expected relation then is that occupational aspirations will be moderately correlated with attainments since the environment also influences the occupational attainment.

To begin with, however, one should have some understanding of the relations that exist between the aspirational factor and the environmental factor. The course taken in this paper is to explore the relationships that exist between occupational expectations (the realistic level of aspiration) and various environmental factors such as fathers occupation and class grade point average. This course was dictated in part by the data, since we do not at this time have information on occupational attainment.

The data for this study has come from a regional rural-urban sample (Texas-Georgia) of 832 Negro and White adolescent boys. Comparisons have been made among the following classifications: rural white Georgia, urban white Georgia, rural Negro Georgia, urban Negro Georgia, rural white Texas, rural Negro Texas and integrated Negroes Texas.

Findings

Two major points have been explored in this paper. First, I have looked at the relationships that exist between the adolescent's level of occupational expectation in his senior year (1968) and other relevant environmental factors. Next, I have looked at the relationship between the adolescent's level of occupational eppectation in his sophomore year (1966) and his eevel of expectation in his senior year. The major dependent variable, level of occupational expectation, has been measured by scoring the adolescent's response to the question of what kind of job do you really expect to have most of your life. The scoring system that was utilized was the one developed by the U.S. Bureau of the Census in working paper No. 15, Methodology and Scores of Socioeconomic Status. (1963). This is a two digit socioeconomic status score which was based on the combined average levels of education and income for males in all occupations in 1950.

As to be expected the level of occupational aspiration significantly correlates with the level of occupational expectation for all seven classifications of adolescents. The positive single-order correlations range from +0.591 for Negro students attending integrated Texas Schools tn 1968 to +0.443 for white students attending schools in metropolitan Atlanta (See Table 1). The major point that has been obtained from this first set of correlations is that even through level of occupational aspiration is the best predictor of leve level of ocupational expectation for all seven classifications (18-34% of the variation) there is still a sizable proportion of the variance unaccounted for. These correlations lend support to the idea that an adolescent attempts to bring his aspirations in line with reality. One of the first limits on the implementation of occupational aspirations then has been the adolescents own reality correction.

As Lewin has suggested, people to some extent adjust their levels of aspirations so that they are ususally not completely out of line for their chances of attaining them. Since level of occupational aspiration is not perfectly correlated with level of occupational expectation, this suggest that some change has occurred. Reviewing the mean scores for these two variables indicates that there is generally a downward deflection. The individual and his realistic appraisal of the environment, that his appraisal of the occupational structure places a major limitation on the attainment of his desired goals.

An interesting set of relationships was the relationship between level of occupational expectation and father's actual occupation in 1968 (See Table 1). Father's occupation was coded by the same socioeconomic status scale that was utilized for measuring occupational aspirations and expectations (U.S. Bureau of the Census, 1963).

The interesting finding has been that father's occupation was significantly correlated only with level of occupational expectation for the rural, white students from Georgia and Texas. The single order correlation between father's occupation and occupational expectation approaches significance for the urban white adolescents from Metropolitan Georgia. The relationship for the Negro adolescents attending both integrated and segregated schools in Georgia and Texas, however, was for the most part extremely low. Father's occupation for the Negro adolescent appears to have very little effect upon their occupational expectations.

Generally, this finding is inconsistent with previous research (Sewell and Shah, 1967). The usual finding has been that measures of socioeconomic status are significantly related to adolescent occupational and educational expectations. These findings, however, have for the most part come from research studies utilizing samples of white adolescent roles.

The reason for not obtaining a similar relationship for Negro adolescents may lie in the structure of the Negro family and the employment situation of Negro men in general. The relative instability of the Negro family and the fact that in general the Negro male occupys a position in the lower segment of the occupational structure may result in the situation where the father's occupational position has little relevance for his son's occupational choices. The Negro adolescent formulates his level of occupational expectation in part independent of his fathers occupation.

The next set of variables that have been examined were the relationships between level of occupational expectation and level of educational expectation and aspiration (See Table 1). Again, level of educational aspiration and level of educational expectation have been found to be significantly correlated with level of occupational expectation for the rural and urban white adolescents. The correlations range from +0.406 to +0.459. On the other hand there is very little relationship between these variables for the urban Negroes and the rural Negroes attending either integrated or segregated schools in Texas. The correlations for these three groups are all below +0.275. Surprisingly, the relationship between level of educational expectation and level of occupational expectation for rural Negro adolescents from Georgia was quite large. The correlation was +0.513.

The explanation for lack of correspondence between level of educational expectations and level of occupational expectations may be sought in looking at the relationship between these two variables as a means-end relationship. For the urban and rural Negro adolescents, except the rural Negroes from Georgia, there was little correspondence between their educational expectations and their occupational expectations. This implies that these Negro adolescents have set certain occupational goals but are unsure of what means are instrumental for attaining these occupational goals. Generally, one would expect that level of education expected would be strongly related to level of occupation expected. The reasoning being that education is a necessary instrumentality for the attainment of occupational goals. For high status occupational goals to be implemented there has to be on the part of the individual adequate preparation and a major instrumental factor in this preparttion has been the level of education attained. If at the outset of the transitional process from adolescence to adulthood an adolescent expects a relatively high occupational position but does not expect to attain adequate educational preparation then the probable result may be that he will not attain his occupational goal. The rural Negroes from Georgia, however, have a strong relationship between level of education expected and level of occupation expected even though their mean scores are not greatly different from the other Negro groups. The explanation for this may lie in some school factor. They may receive more adequate high school preparation and counseling which in turn facilitates them in gaining some correspondence between their educational and occupational expectations. This may be a further area of research.

The relationship between high school grade average in 1968 and level of occupational expectation was consistent with the finding that was obtained between level of educational expectation and level of occupational expectation. The rural and urban Negro students with the exception of the Negro students from rural Georgia display a very low relationship between grade average and level of occupational expectation (See Table 1). The rural and urban white students from Georgia are characterized by a moderate but significant relationship between grade average and level of occupational expectation.

The adolescents who have been characterized by a low relationship between level of expected education and level of expected occupation have also been characterized by a low relationship between level of expected occupation and grade point average. This further supports the contention that these Negro students have a very low articulation between the means attaining occupational goals and the goals themselves.

The second point that was explored in this paper was the stability of the adolescents occupational expectations from his sophomore year in high school (1966) and his senior year in high school (1968). (See Tables 1 to 6). The comparisons were made only for the rural white and Negro students since the urban sample of Negro and white students were not studied in 1966. Also, the total number of respondents has been greatly reduced for the remaining five groups. This was the result of the fact that many of the Georgia adolescents who were questioned in 1968 were not questioned in 1966. That is the sample was enlarged in 1968. The other problem also exists in that some of the students who were questioned in 1966 were not questioned in 1968. For some reason either because they had dropped out of the school or were absent on the day the re-study was done they were not questioned.

The findings regarding the stability of occupation expectation in 1966 to 1968 has been that the student's expectations remained family constant from 1966 to 1968. The rural white Georgia and Texas adolescents and the Negro segregated adolescents from Georgia and the integrated Negroes from Texas all were characterized by having a high proportion of their responses in 1968 in the same category as they did in 1966. There was a high degree of consistency in level of occupational expectation from the sophomore year to the senior year. The implication may be, at least for the students who remained in the sample for both study periods that these students have generally formulated their occupational expectation by their sophomore year. The interesting possibility is that these students who are consistent in their occupational expectations from their sophomore year to their senior year would be more likely to obtain their occupational goal. They are in a position where they have decided upon their goals and, thus, are free to concentrate their energy and resources on attaining these goals. They are free to concentrate on implementing their level of occupational expectation. This would be an interesting future hypothesis.

Conclusions

To summarize then one can make the following points:

1. For the white adolescents from either rural or urban areas the relationships between their level of occupational expectation and other variables such as father's occupation, level of educational aspiration and expectation, and grade point average follows expected patterns. These variables all correlate moderately strong with level of occupational expectation.

2. For the Negro students, however, there some major differences. Their level of occupational expectation was not highly related to father's occupation or to level of educational aspiration and expectation. This may be one of the reasons for the lack of articulation between means-ends for the Negro adolescent. His perceived environment gives little indication of the necessity for having a high correspondence between education attained and occupation attained.

3. The third point is that for the adolescents who were questioned both in their sophomore and senior year showed a high degrees of consistency in their occupational expectations. The interesting direction to follow from here would be to follow these students and observe how close they are to meeting their occupational expectations.

BIBLIOGRAPHY

Bealer, Robert C., and William P. Kuvlesky, "The Relevance of Adolescents' Occupational Aspirations for Subsequent Job Attainments," Rural Sociology, 32 (September, 1967), pp. 290-301.

Haller, Archibald O., "On the Concept of Aspiration," Rural Sociology, 33 (December, 1968), pp. 484-487.

________________ and Irwin W. Miller, The Occupational Aspiration Scale: Theory, Structure and Correlates, East Lansing: Michigan State University Agr. Exp. Sta. Tech. Bulletin 288, 1963, p. 38.

Lewin, Kurt, Field Theory in Social Science, New York: Harper Torchbooks, 1964, pp. 285-297.

Sewell, William H. and Vinal P. Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education," Sociology of Education, 40 (Winter, 1967), pp. 1-23.

U.S. Bureau of the Census, Methodology and Scores of Socioeconomic Status, Working Paper No. 15. (Washington, D. C.: Government Printing Office, 1963).

TABLE 1

CORRELATIONS BETWEEN LEVEL OF OCCUPATIONAL EXPECTATION AND SIX ENVIRONMENTAL FACTORS FOR SEVEN CLASSIFICATIONS OF ADOLESCENT MALES

Level of Occupational Expectation Correlated with	Pearson's r	
	Rural, White Georgia Adolescents (N=289)	Rural, White Texas Adolescents (N=129)
Level of Occupational Aspiration (1968)	0.528**	0.492**
Father's Occupation (1968)	0.313**	0.338**
Alternative Occupational Choice in 1968	0.360**	0.221*
Level of Educational Aspiration (1968)	0.345**	0.437**
Level of Educational Expectation (1968)	0.406**	0.407**
Senior Class Grade Average (1968)	-0.333**	-0.108

* Significant at .05 Level of Probability
** Significant at .01 Level of Probability

TABLE 1 cont'd.

Level of Occupational Expectation Correlated With	Pearson's r	
	Urban, White Georgia Adolescents (N=60)	Urban, Negro Georgia Adolescents (N=86)
Level of Occupational Expectation (1968)	0.443**	0.586**
Father's Occupation (1968)	0.249	-0.011
Alternative Occupational Choice in 1968	0.489**	0.381**
Level of Educational Aspiration (1968)	0.424**	0.273
Level of Educational Expectation (1968)	0.459**	0.179
Senior Class Grade Average (1968)	-0.408**	-0.307

* Significant at .05 Level of Probability
** Significant at .01 Level of Probability

TABLE 1 cont'd.

Level of Occupational Expectation Correlated with	Pearson's r		
	Rural, Negro Integrated, Texas (N=36)	Rural, Negro Segregated, Texas (N=37)	Rural Negro Segregated, Georgia (N=95)
Level of Occupational Aspiration (1968)	0.591**	0.465**	0.565**
Father's Occupation (1968)	0.037	0.236	0.003
Alternative Occupational Choice in 1968	0.263	0.314*	0.478**
Level of Educational Aspiration (1968)	0.134	0.081	0.307**
Level of Educational Expectation (1968)	0.218	-0.194	0.513**
Senior Class Average (1968)	-0.150	N.A.	-0.259*

* Significant at .05 Level of Probability
** Significant at .01 Level of Probability
N.A. - Not Available

TABLE 2

COMPARISON OF 1966 OCCUPATIONAL EXPECTATIONS WITH 1968 OCCUPATIONAL EXPECTATIONS FOR RURAL WHITE GEORGIA STUDENTS

1966 Occupational Expectation	1968 Occupational Expectations		
	High	Medium	Low
High	41	5	1
Medium	8	10	3
Low	2	5	7

x^2=39.21 d.f.=4 $p < .01$

TABLE 3

COMPARISONS OF 1966 OCCUPATIONAL EXPECTATIONS WITH 1968 OCCUPATIONAL EXPECTATIONS FOR RURAL WHITE STUDENTS IN TEXAS

1966 Occupational Expectation	1968 Occupational Expectation		
	High	Medium	Low
High	38	1	6
Medium	16	11	6
Low	10	1	10

x^2=28.31 d.f.=4 $p < .01$

TABLE 4

COMPARISONS OF 1966 OCCUPATIONAL EXPECTATIONS WITH 1968 OCCUPATIONAL EXPECTATIONS FOR INTEGRATED NEGRO STUDENTS IN TEXAS

1966 Occupational Expectation	1968 Occupational Expectation	
	High	Low
High	11	3
Low	7	2

$x^2=16.51$ d.f.=1 $p< .01$

TABLE 5

COMPARISONS OF 1966 OCCUPATIONAL EXPECTATIONS WITH 1968 OCCUPATIONAL EXPECTATIONS FOR SEGREGATED NEGRO STUDENTS IN TEXAS

1966 Occupational Expectations	1968 Occupational Expectations	
	High	Low
High	10	10
Low	5	6

$x^2=.0589$ d.f.=1 $p< .50$

TABLE 6

COMPARISONS OF 1966 OCCUPATIONAL EXPECTATIONS WITH 1968 OCCUPATIONAL EXPECTATIONS FOR SEGREGATED NEGRO STUDENTS IN GEORGIA

1966 Occupational Expectations	1968 Occupational Expectations	
	High	Low
High	35	16
Low	3	7

$x^2=8.34$ d.f.=1 $p< .01$

THE DISADVANTAGED STUDENT, GOAL-BLOCKAGE, AND THE OCCUPATIONAL ASPIRATIONS OF SOUTHERN YOUTH*

by

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This paper serves as a report on research in progress that attempts an evaluation of the effects of group disparity on the occupational choice of southern high school students. It focuses specifically on the aspiration choices of 8802 tenth-grade students in four southern states: Alabama, Georgia, Mississippi, and South Carolina. The relative effects of class, race, and residence are investigated. There is a brief discussion of theory, analytical procedures, and initial findings.

Theoretical Orientation

(1) Occupational choice is seen as a process and is treated in a developmental framework. The choice process starts early in a child's life and continues into the adult years. Occupational choice is a product of prior influences as well as current circumstances. (Ginzberg, 1951; Super, 1953; Rogers, 1966)

(2) The importance of differential socialization in forming the occupational role of the individual is also stressed. The manner in which the individual is socialized in the family setting determines, in large part, the individual's concept of acceptable

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occupational roles and goals. Socialization in the school, in peer groups, among family associates, and in work experiences is seen as a contributing factor. (Rogers, 1966)

(3) Stages in the choice process can be distinguished where the quality of the choice varies according to the stage of the development. Ginzberg discusses the fantasy stage (pre-adolescent), the tentative stage (adolescent), and the realistic stage (late adolescent and earlier adulthood). Generally, as the child moves from stage to stage in the choice process, his occupational choices become more focused, and often there is a narrowing of the range of acceptable occupations and his commitment to a particular occupational goal may increase. (Ginzberg, 1951)

(4) At various periods in the choice process, different types of choice can be delineated. Although there is considerable lack of agreement on appropriate terminology and perhaps conceptual differences, at least two dimensions of choice can be distinguished. First, there are occupational aspirations where the individual's choice of a particular occupation is one he wishes or desires to enter as his life's work. Second, there are occupational expectations where the student's choice of a particular occupation is one he expects or anticipates entering as his life's work. (Blau, 1956; Glick, 1962; Kuvlesky and Bealer, 1966)

(5) In the pre-adolescent years, the child selects those occupations that he perceives as being pleasurable. The choices are thought to be generally variable, quite often high in status, and often unrealistic in terms of the actual occupation which

the individual will enter when he becomes an adult. Furthermore, the choices at this period can be characterized as being "goal centered" with little or no concern for the means required to obtain the given occupation. (Ginzberg, 1951)

(6) During the adolescent years, the choices become more tentative. The range and type of desired and expected occupations are greatly narrowed. The individual now becomes concerned with the means required to obtain a particular occupational goal. (Ginzberg, 1951)

(7) As the individual considers the necessary means required to obtain his occupational choices, he may perceive obstacles or blocks which he views as limiting or obstructing his chances to obtain his earlier "goal centered" choices. If the individual believes the blocks to be great, he will tend to lower his occupational choices.

(8) One group of such blocks is referred to here as structural disparity, i.e., membership in any group which has relatively limited access to higher level positions in the occupational structure.

(9) The limited occupational chances of the lower class student, the Negro student, and the rural student are well documented. (Mayer, 1955; Hollingshead, 1953; Kinkel, 1954; Lipset and Bendix, 1959; Rose, 1957; Hill, 1967; Simpson and Yinger, 1965; Harris, 1963; and Lipset, 1955)

(10) Thus, one would expect the levels of choices of these groups to be lower than other more advantaged students.

Key theoretical and empirical questions at this point are (a) At what period in occupational development do disadvantaged students become aware of the occupational disparity, and (b) What is the degree of awareness at a given stage?

(II) This report seeks answers to two sets of questions: (a) What are the relative effects of various configurations of these disparity variables on the aspiration levels of 10th grade students; and (b) What are the relative effects of each variable when the effects of the others are "partialed out" on the aspirations of these students?

The Data

As aforementioned, the data used in this study were obtained from interviews of 8802 tenth-grade students in four southern states. Sampling designs varied from state to state, i.e., a stratified probability sample of high school students was used in South Carolina while the other states used purposive sampling procedures. Although a largely standardized schedule was used in each of the four states, coding and data processing differed considerably. In order to make the original data compatible, one of the initial steps in the analysis was to transform the data to a standardized code. The transformation was necessary before the analysis on a whole sample basis could be carried out.

Analytical Procedures

At least three types of questions should be answered in an attempt to explain a given phenomena: (1) What are the most "relevant variables" that can be used to explain the phenomena; (2) Of these relevant variables, which is the most useful in explaining the phenomena in a given situation; (3) Which combinations or configurations of these variables can best explain the phenomena in a given situation? The main effort in past occupational youth studies has been with the first type of question with little concern for information of the second and third types.

A category of multi-varied procedures is used in this research which has been designed especially for attribute data that allow one to rank the effects of particular independent variables on a dependent variable, and allow a comparison of the effects of different combinations of the various independent variables. These techniques are in many ways similar to the more common multiple-regression procedures for higher levels of measurement.

The computation of effects is based on formulas provided by James L. Coleman in his text on Mathematical Sociology (Coleman, 1964). These computational procedures for effects are used in conjunction with an adaptation of the "Backward Elimination Procedure," (Draper and Smith, 1966). The Backward Elimination Process was developed in regression analysis to aid the researcher in selecting the "best" regression equation when multiple independent variables are used to estimate a particular dependent variable. It is basically a technique which deletes variables from the model which contribute only slightly to the estimate of the dependent variable.

Simple Relationships

The first operation is the carrying out of a simple frequency distribution where each of the independent variables is cross-tabulated with level of occupational aspiration. A Chi-square test of statistical significance is applied to see if a statistical difference is observable for the data (Blalock, 1960). Cramer's test of association (V) is also used to measure the strength of the relationship (Blalock, 1960). The V statistic is an index of association for contingency data utilizing Chi-square values.

Table 1. Simple Relationship Between Occupational Aspirations and Residence

	Urban	Town	Rural Nonfarm	Rural	Totals
High Aspirations	.71 (2497)	.59 (703)	.53 (1118)	.55 (941)	.62 (5259)
Medium Aspirations	.24 (865)	.36 (429)	.39 (815)	.39 (667)	.33 (2776)
Low Aspirations	.04 (162)	.05 (64)	.07 (156)	.05 (92)	.05 (474)
Total	3524	1196	2089	1700	8509

$X^2 = 233.7528$** V = .117

TABLE 2. THE RELATIONSHIP BETWEEN ASPIRATIONS AND FATHER'S EDUCATION

	High	Low	Total
High Aspirations	.70 (3225)	.50 (1279)	.63 (4504)
Medium Aspirations	.26 (1193)	.45 (1151)	.33 (2344)
Low Aspirations	.04 (202)	.05 (135)	.05 (337)
Total	4620	2565	7185

X^2 = 290.8977** V = .201

TABLE 3. THE RELATIONSHIP BETWEEN OCCUPATIONAL ASPIRATIONS AND FATHER'S OCCUPATIONS

	High	Medium	Low	Total
High Aspirations	.74 (1970)	.58 (2205)	.57 (714)	.63 (4889)
Medium Aspirations	.22 (597)	.36 (1375)	.36 (448)	.31 (2420)
Low Aspirations	.04 (108)	.06 (231)	.07 (91)	.06 (430)
Total	2675	3811	1253	7739

X^2 = 195.3059** V = .112

TABLE 4. THE RELATIONSHIP BETWEEN OCCUPATIONAL ASPIRATIONS AND RACE

	White	Non-White	Total
High Aspirations	.63 (3935)	.59 (1357)	.62 (5292)
Medium Aspirations	.32 (2032)	.33 (758)	.32 (2770)
Low Aspirations	.05 (289)	.08 (188)	.05 (477)
Total	6256	2303	8559

X^2 = 42.5432** V = .070

First, the aspiration level of all sub-groups was relatively high. As expected the simple tables indicated that the student whose father had a high level occupation and/or a high level education, the student from an urban area, and the white student tended to have a higher level occupational aspirations. As measured by the V statistic, the relationships in each table were not especially strong. The racial difference was very slight in favor of the white students.

Computation of Subclass Proportions

Each of the independent variables is redefined in terms of a high and low state, i.e, each of the variables is measured dichotomously. The determination of whether a given variable is in a high or low state depends on either theory or previous research. In studies of the relationship between residence and aspiration, for example, urban residence has been associated with high occupational aspirations. (Payne, 1956; Burchinal, 1961; Haller and Sewell, 1957; Birdie and Hood, 1963; and Middleton and Grigg, 1959) Therefore, urban is considered to be the high state and rural the low state of the residence variable. In a similar manner, high father's occupation, high father's education, and white race are considered to be the high states of their respective variables.

A complex frequency distribution is carried out controlling on the four independent variables. If we control on m dichotomous independent variables, m^2 observations on the dependent variable result. Thus, the four dependent variables used here yield 16 subclass observations. The subclass observations are taken in the form of the proportions of students with high occupational aspirations in each subclass. Table 5 reveals the variable configuration for each subclass.

TABLE 5. PROPORTIONS OF STUDENTS WITH HIGH ASPIRATIONS FOR FOUR VARIABLE CONFIGURATIONS

X (1) Father's Education	X (2) Father's Occupation	X (3) Residence	X (4) Race	Observed Proportions
H	H	U	W	.82 (1325)
H	H	U	N	.78 (107)
H	H	R	W	.77 (478)
H	H	R	N	.51 (51)
H	L	U	W	.67 (1165)
H	L	U	N	.64 (229)
H	L	R	W	.58 (702)
H	L	R	N	.58 (214)
L	H	U	W	.55 (109)
L	H	U	N	.88 (25)
L	H	R	W	.48 (245)
L	H	R	N	.57 (54)
L	L	U	W	.51 ((529)
L	L	U	N	.60 (236)
L	L	R	W	.45 (669)
L	L	R	N	.53 (362)

Partitioning of Variable Effects

The problem at this stage of the analysis is to partition the effects of each independent variable on the dependent variable. It is desired to estimate the effect of each independent variable on the dependent variable when the other dependent variables are controlled. In general, Coleman's approach to estimating variable effects is based on averages of differences in proportions between subclasses in which the independent variable is in a high state and the condition in which it is in a low state. The general equation for m dichotomous independent variables is presented in the following manner:

> If there are m independent attributes altogether then there are, altogether 2^mp's. For any attribute there are, therefore, half this many pairs, 2^{m-1}, to be averaged. If the index C signifies a particular combination of the other dichotomies (e.g., state 1 on attributes 2,3,5,8,m, and state 0 on all others, excluding the one in question), then there are 2^{m-1} such combinations, and the proportion of difference for each combination is $P_{ic}-P_c$. The equations for the effects of attribute i are
>
> $$a_i = \frac{1}{2^{m-1}} \sum_{C=1}^{2^{m-1}} (P_{ic}-P_c)$$
>
> or if we let $2^{m-1} = V$,
>
> $$a_i = \frac{1}{V} \sum_{V_c = 1}^{V} (P_{ic}-P_c)$$
>
> For two independent attributes, there are two comparisons on each; for three, there are four comparisons; for four, eight comparisons; and so on. (Coleman, 1966)

Coleman refers to the residual effects as random shock. Random shock is a measure of the unexplained variance observed in the subclass proportions. Furthermore, random shock can be partitioned into two sources: (1) there is random shock in the direction of higher subclass proportions and (2) there is random shock in the direction of lower subclass proportions. The formulas for these secondary random shock effects are very lengthy and are omitted for the sake of space. Coleman, 1966)

$$\text{Random Shock} = 1 - \sum_{i=1}^{m} a_i$$

A final measure of composite effect can be easily computed:

$$\text{Composite Effect} = \sum_{i=1}^{m} a_i$$

Also:

$$\sum_{i=1}^{m} a_i + \text{random shock} = 1$$

The composite effect coefficient is perhaps the most useful of effect measures because it is an index of the explanatory power of the entire model.

TABLE 6. COMPARISON OF VARIABLE EFFECT ESTIMATES FOR FOUR VARIABLE MODEL

Variable	Effect Estimate	M-Score	Statistical Significance[a]
X(1) Father's Education	.099	3.616	$\Pr\left[X^*(1) \leq 0\right] < .0002$
X(2) Father's Occupation	.100	3.652	$\Pr\left[X^*(2) \leq 0\right] < .0002$
X(3) Residence	.123	4.492	$\Pr\left[X^*(3) \leq 0\right] < .00001$
X(4) Race	-.033	1.205	$\Pr\left[X^*(4) \geq 0\right] = .1131$
Composite Effect	.289	-----	----------

[a] The cumulative normal distribution was used to determine the probability that the population effects $X^*(i)$ differ from zero. The computation of effect variances is based on a pooling of subclass proportion variances where each subclass variance = $P_j(1-P_j)/N_j$.

Several observations can be made at this stage in the analysis. All subclasses had relatively high level occupational aspirations (see Table 5). However, considerable differences were observed between subclasses. The four variable model (see Table 6) "explained" only a moderate amount of variation in aspiration levels as indicated by the composite effect estimate of .289. Of the variables in this model, father's education, father's occupation and residence contributed significantly to the estimation of aspiration levels. The chance of the population effect for these three variables being either zero or less was found to be very slight. The racial variable contributed only slightly to the model. The racial effect estimate (-.033) could easily have occurred by chance. It is interesting to note here that racial differences were observed in the simple comparison but disappeared when the effects of the other variables were controlled.

Backward Elimination

At this point, variable deletion begins. An adaptation of the "backward elimination procedure" is used to select models for analysis. The following outline gives a step by step account of this method.

STEP I: The highest order model is considered first. The effect estimates for each variable is computed according to procedures provided by Coleman. Also, the composite effect is calculated.

STEP II: Tests of statistical significance for each effect estimate are carried out, again, according to Coleman.

STEP III: The variable with the least statistical significance (in this case, the one with the smallest effect estimate) is eliminated from the model.

STEP IV: The researcher returns to step I and continues until all variables are deleted. The number of models on which the researcher focuses his attention has been reduced.

This reduction procedure reduced the analysis to a few "best" models rather than an analysis of all possible models. It is felt that an intense examination of a few models selected in the forementioned manner will prove superior to an attempt to analyze all possible combinations of a set of variables. This procedure, however, is merely a research guide to variable deletion and should be used only when theoretical guidelines are insufficient to indicate appropriate models for investigation.

TABLE 7. PROPORTIONS OF STUDENTS WITH HIGH ASPIRATIONS FOR THREE VARIABLE CONFIGURATIONS

(1) Father's Education	(2) Father's Occupation	(3) Residence	Observed Proportions	
H	H	U	.82	(1432)
H	H	R	.74	(529)
H	L	U	.67	(1394)
H	L	R	.58	(916)
L	H	U	.61	(134)
L	H	R	.50	(299)
L	L	U	.54	(765)
L	L	R	.53	(931)

TABLE 8. COMPARISON OF VARIABLE EFFECT ESTIMATES FOR THREE VARIABLE MODEL

Variable	Effect Estimate	Z-Score	Statistical Significance
X(1) Father's Education	.158	9.994	Pr $\left[X^*(1) \leq 0\right] < .00001$
X(2) Father's Occupation	.088	5.566	Pr $\left[X^*(2) \leq 0\right] < .00001$
X(3) Residence	.073	4.617	Pr $\left[X^*(3) \leq 0\right] < .00001$
Composite Effect	.319	-----	------

TABLE 9. PROPORTION OF STUDENTS WITH HIGH ASPIRATIONS FOR TWO VARIABLE CONFIGURATION

X(1) Father's Education	X(2) Father's Occupation	Observed Proportion
H	H	.80 (1961)
H	L	.63 (2310)
L	H	.54 (433)
L	L	.53 (1696)

TABLE 10. COMPARISON OF VARIABLE EFFECT ESTIMATES FOR TWO VARIABLE MODEL

Variable	Effect Estimate	Z-Score	Statistical Significance
X(1) Father's Education	.180	18.000	$\Pr \left[X^*(1) \leq 0 \right] < .00001$
X(2) Father's Occupation	.090	9.000	$\Pr \left[X^*(2) \leq 0 \right] < .00001$
Composite Effect	.270	-----	--------

Summary and Conclusions

The proportion of students with high level occupational aspirations in all subclasses was relatively high. Approximately one half of the students in the more disadvantaged groups had high level aspirations, e.g., of the rural Negro students whose fathers had low level occupations and education, 53 percent had high level occupational aspirations. Similar findings were found for the other disadvantaged groups. The occupational aspirations of these students seem very unrealistic in terms of the actual occupations such students will probably enter as their life's work. There is certainly a great potential for occupationally related frustration among such students. A key issue here is the determination of the intensity of the occupational aspirations and the degree of commitment of the disadvantaged students to these occupational goals.

Four models were evaluated in terms of their composite effect estimates. (See Table 11). Four variables (father's occupation, father's education, residence, and race) were used in the first model. In each successive model, the variable which had contributed least to the composite estimate of aspiration level was deleted. This procedure was continued until only one variable remianed in t the last model.

As indicated by the composite effect estimate (.319), the second model $\left[X(1);\ X(2);\ X(3) \right]$ provided the "best" estimate of the aspiration level. Within this model, each variable was found to make a statistically significant contribution to the composite effect estimate. The separate variable effect estimates were .158 for father's education, .088 for father's occupation and .073 for residence. The two social class variables (father's education and occupation) accounted for the major portion of the aspiration variation. Although the effect estimate for residence had decreased, it still contributed to the models explanitory power.

TABLE 11. MODEL COMPARISON FOR BACKWARD ELIMINATION

Model[a]	Composite Effect	Change
X(1); X(2); X(3); X(4)	.289	---
X(1); X(2); X(3)	.319	+.036
X(1); X(2)	.270	-.049
X(1)	.200	-.070

[a] X(1) = Father's Education; X(2) = Father's Occupation;
X(3) = Residence; X(4) = Race

It was hypothesized that the adolescent begins to consider the means required to obtain his earlier (pre-adolescent) high level occupational goals. As he beings to consider the means required to obtain his occupational goal, the likelyhood of the perception of limiting factors (goal-blockage) increases. One result of the perception of severe blockage is the lowering of the occupational goals. Furthermore, the severity of goal-blockage should vary according to the actual occupational disparity in the social situation. Thus, it was anticipated that students in the lower classes (as indicated by father's occupation and education), the rural students and the Negro students would tend to have lower aspirations. The lower class students and the rural students tended to exhibit aspirations which support the aforementioned theoretical notions but no differences were observed for the Negro students.

The failure of the Negro students to follow the general pattern of the other disparity groups presents a conceptual problem for the original formulation. At least, three explanations can be set forth as possible solutions. First, it is possible that the original theoretical formulation may be inadequate for this problem and that other formulations may have superior utility. Second, the influence of the civil rights movement in the south and the related changes in Negro attitudes toward black pride and black power may counteract the present occupational disparity of the Negro. Third, the Negro student may develop his occupational choice in a pattern that differs markedly from the white youth, i.e., it may be useful to discuss developmental types. The Negro may begin to seriously consider means much later than the white youth and, thus, his perception of blockage tends to occur at a later period. Also it is quite possible that a combination of the second and third explanations will yield the most useful model.

BIBLIOGRAPHY

1. Berdie, Ralph F. and Albert B. Hood. "Changing Plans of High School Graduates," Personnel and Guidance Journal, XLII (September, 1963), 43-46.

2. Blalock, Hubert M. Social Statistics. New York: McGraw-Hill, 1960

3. Blau, Peter, et. al., "Occupational Choice: A Conceptual Framework," Industrial and Labor Relations Review, IX (July, 1956), 531-543.

4. Burchinal, Lee G. "Differences in Educational and Occupational Aspirations of Farm, Small Town and City Boys," Rural Sociology, XXVI (June, 1961), 107-121.

5. Coleman, James S., Introduction to Mathematical Sociology. Glencoe: The Free Press, 1964.

6. Draper, V. R. and H. Smith, Applied Regression Analysis. New York: John Wiley, 1966.

7. Ginzberg, Eli. Occupational Choice: An Approach to a General Theory. New York: Columbia University Press, 1951.

8. Glick, Peter. "The Occupational Choice, the Occupational Values, and the Anticipated Occupational Frustration of the Agricultural Majors of Delaware Valley College of Science and Agriculture." Unpublished Ph.D. dissertation, Rutgers, The State University, 1962.

9. Haller, Archibald O. and William H. Sewell, "Farm Residence and Level of Educational and Occupational Aspirations," American Journal of Sociology, LXII (January, 1957), 407-411.

10. Harris, Abram L., "Education and the Economic Status of Negroes in the United States," in 100 Years of Emancipation. Robert A. Goldruin (ed.) Chicago: Rand McNally, 1963.

11. Hill, Herbert, "Racial Inequality in Employment: The Patterns of Discrimination," in Minorities in a Changing World. Milton L. Barron (ed) New York: Alfred A. Knopf, 1967.

12. Hollingshead, August B., "The School System," in Class, Status, and Power. Reinhard Bendix and Seymour Lipset (eds.), New York: The Free Press, 1953.

13. William F. Kinkel and John F. Arber, Social Stratification in the United States. New York: Appleton-Century-Crofts, 1954.

14. Kuvlesky, William P. and Robert C. Bealer, "A Clarification of the Concept 'Conceptual Choice'", Rural Sociology, XXXI (September, 1966), 290-301.

15. Lipset, Seymour Martin, "Social Mobility and Urbanization," *Rural Sociology*, XX (December, 1955), 224-229.

16. ____________________ and Reinhard Bendix, *Social Mobility in Industrial Society*, Berkley: University of California Press, 1959.

17. Mayer, Kurt B., *Class and Society*. New York: Random House, 1955.

18. Middleton, Russell and Charles M. Grigg. "Rural-Urban Differences in Aspirations," *Rural Sociology*, XXIV (December, 1959), 347-354.

19. Payne, Raymond, "Development of Occupational and Migrational Expectation and Choices Among Urban, Small Town, and Rural Adolescent Boys," *Rural Sociology*, XXI (June, 1956), 117-125.

20. Rogers, Roy H., "The Occupational Role of the Child: A Research Frontier in the Developmental Conceptual Framework," *Social Forces*, VL (December, 1966), 217-224.

21. Rose, Arnold, *The Negro in America*. Boston: The Beacon Press, 1957.

22. Simpson, George E. and J. Milton Yinger, *Racial and Cultural Minorities*. New York: Harper and Row, 1965.

23. Super, Donale E., "A Theory of Vocational Development," *The American Psychologist*, *VIII* (May, 1953), 195-190.

SOME REFLECTIONS ON NEEDED RESEARCH IN RURAL SOCIOLOGY*

By

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This paper is not the product of a long, tedious, painstakingly empirical investigation of the research which has been done in rural sociology. Rather, it represents the reflections of one who has attempted to keep a hand on the rapid pulse of change during the course of quite a few years dedicated to this subdisciplinary field. In keeping with the non-empirical approach, no documentation or footnotes is done. Instead, a simple narrative, very general statement on what appears to the writer to be needed in the way of research emphasis in rural sociology at this period in social time, circa 1969, is given. My remarks are organized roughly under three headings. The first I have called "Needed Basic Research." The second I have designed to represent the other side of the coin and termed "Needed Applied Research." My third and final section is dedicated to the perspective from which I feel rural sociology investigations should be launched. If the reader detects gaps or biases in what I have to say, it is well and good and I graciously stand amended. No one person can completely and objectively conceive of the total research needs of a given field of study.

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*Paper read at Association of Southern Agricultural Workers meeting in Mobile, Alabama, February 3, 1969.

Needed Basic Research

At this point, I should like to state that it is my view that basic and applied research cannot be neatly separated one from the other. However, in an analytical sense, one can "operationalize" a definition of basic research as that research which deals primarily with the development of theoretical formulations, and contrast this definition with an operational definition of applied research which sees the latter as investigations designed for pragmatic goals, i.e., to solve some specific problem.

When I think in terms of basic research, I think in terms of theories for explaining and understanding social behavior, including models for explaining social structure and process. In this regard, it is my feeling that we are, despite much good work to date, still at the frontier of understanding what we mean by the concept social organization. Elsewhere I have pointed out that there appear to be obvious differences in the structural characteristics of roles as one moves from a rural to an urban setting. However, little or no research has been done to test these theoretical formulations. I am also convinced that there are definite and recognizable differences in the other structural elements which characterize one type of social organization versus another type, such as norms and status-positions. It is my feeling that only intensive study along the lines of what are the structural dimensions and content of these social system elements will settle questions relative to what the differences are in social relations which develop in one or another type of setting. This is the first type of basic research I am calling for, and it is no easy overnight task. It involves serious and longtime dedication to the determination of the structural and processual characteristics of human groupings which we tag respectively as small groups, complex organization, communities, and societies. We must come to understand why these units of social structure differ in their formation, their elemental characteristics and functioning as we move from one type of social structure to another. We must also develop an understanding of how one unit or system of organization is linked to another to form an integrated whole. Questions such as, "How are power relations established?"; Why do different patterns of social stratification exist?"; How are control mechanisms worked out and applied?"; and "Which are the likely sources of stresses and strains?", need positive answers. Also, the nature of and the functioning of social institutions and the systems which support these institutions needs to be looked at very carefully. In this regard, one of the most frustrating experiences of a current day sociologist is a search for anything like a systematic approach to the study of social systems. For example, if one looks for a recent study of the structural characteristics of a rural family, a corporation farm, a rural school, or a rural church, he is bound for disappointment. I know, and you know, that rural families will vary in their structural characteristics as we move from one region to another or one type farming area to another, but what are these differences? They have not been recorded. We also know that farm systems differ in terms of the nature and characteristics of the social relations which bind them into action wholes. But can anyone describe the "sociological" distinction between a corporation farm as a complex social system and a family farm as a simple social system satisfactorily. I repeat the question, "What are the structural characteristics of the norms, roles, and status positions which bind these social units into cohesive wholes?".

Another basic research aspect of the social structure which has probably been neglected even more than social organization is the cultural structure. The latter provides the guidelines for social organization, which is the second element of the social structure. But, we know very little about how these guidelines form. For example, we say that values differ as we move from one subregion to another and we note differences in culture traits and complexes, but can we account for these differences and can we relate them (systematically) to actual behavioral manifestation: Why do certain values become deeply internalized in one system and not another? We know that change must be brought about in the context of values but how can we explain and predict change if we don't know too much about values. The cultural structure must, I repeat, must be studied carefully and logico-meaningful theories developed before we will approach the total predictive values of our science.

Another aspect of basic research which I feel has been grossly neglected is what might be termed the impact of situational or environmental factors on behavior. In this regard, I am convinced that we have not given enough serious thought to the relation of environmental or situational factors like temperature, terrain features, rainfall, to human behavior. The effect which these factors have on humans is readily noticeable, but has not been translated into theoretical formulations.

In rounding off this discussion of needed basic research, I should like to enumerate general types of studies which I feel are desperately needed. First, I would call for careful and exhaustive research on all level social systems which have relevance for rural life. What I have in mind here is a determination of the types and kinds of norms, roles and status positions which make up single groups such as families; or complex organizations, such as large farms; or of rural communities. Such studies should be done in various geographical and sub-cultural settings for comparison purposes and each system should be related to the institution which it serves primarily. Once a roster of such studies were available, one could speak with scientific authority in outlining the "sociological" characteristics of structure and function of all classes of social systems. The potential for planning, policy making and programming of information of this type overwhelms one's imagination.

Needed Applied Research

I am admittedly and unabashedly a pragmatist in my overall professional orientation. This does not mean, as you have seen, that I am unappreciative of or frightened by theory. It simply reflects a conviction that rural sociologists (and sociologists) can best prove their worth by demonstrating that they can contribute to the solution of various types of problems My strong feeling is that up until now we have let down those who have provided us with research funds and have not attracted more such funds because we have not given good answers. Many have come to us interested in simple responses related to "how many", "what kind" and "among whom?" These are answers which could have been furnished easily and rather definitely. Yet we have moved only hesitantly, and made a great many excuses. I suspect our reactions are partly because we thought this type of work was "descriptive" or "cafeteria-style" or low-status and partly because we felt unsure about our ability to perform capably. However, when one thinks about it, what is more basic in the way of "scientific" information than the characteristics of a subgroup such as health practices, or their use of communication media, or their thinking about issues of the day. We have done very little, outside of demography, in what might be termed "comparative" sociology. We know that some families are successes and some are not, yet we are hardput to isolate the "sociological" factors which account for the differences except in a very general sort of way. The same is true for other types of social systems.

For other clues to "practical" research which needs to be done in rural sociology, one has but to listen to an Agricultural Experiment Station director, a county agent, or the superintendent of a rural school. Such persons, and others like them, will ask questions, such as, "What will be the impact of statuses, regulations and laws on people in their states or districts." As sociologists, we know that such devices as laws change normative practices in the interest of certain goals. However, we also know that unanticipated consequences are seldom matters for the concern of law makers, yet often have disastrous effects. Here, we could make both beforehand and follow-up studies to determine what the total effects of laws such as wage and hour acts, meat inspection schemes, conservation laws, subsidy programs, welfare provisions, and other coercive types of control might be.

A whole Pandora's box of needed applied research relates to what might be termed social efficiency. I have in mind serious pragmatically designed studies of the potential of rural recreation, of the consequences of settlement patterns, of the need for and types of housing, of the availability of and advantages of various types of marketing arrangements, of alternative patterns of land tenure, of school functioning in rural areas, of the problems of rural churches, and of the problems of local government. I wish I had time to outline a few such projects in detail. I hope you see one's only limitation in thinking of such research in his imagination.

A Needed Perspective for Rural Sociological Research

In this final section of my report I would like to air a growing conviction of mine. This is the feeling that we need a different perspective than that we have taken in the past in order for our research to become most meaningful. I am convinced that we have to do much more in terms of relating our studies properly to social time and social space. In this regard, I feel that there is as much difference between rural societies in an underdeveloped, a developing and a developed stage as there are between rural societies and urban societies. I think we ought to recognize and classify these differences and then cast our research in terms of the type of society we are working with and in. For example, power relations are quite different in an underdeveloped and a developed society. This means all the structural aspects of the various social systems in each society vary. We do not account for this variance in our present-day theories.

The second perspective which I would like to mention and recommend is that of the experimental approach. Such an approach goes hand in hand with the comparative approach I mentioned before. We know that there are factors which account for success or failure in given endeavors, all other things being equal. If we set up the proper experimental conditions, we could move from family to family, farm to farm and community to community to determine why certain of these social systems operate more efficiently than others. It is my contention that well thought out experimental designs would also help us understand problems, such as those of crime and poverty. For example, I am convinced that experimentation could be done to test ways of relieving the social pressure of the central city. Why not establish communities of families on 10 or 20 acres some easy commuting distance from our larger cities on a pilot basis? This could be done in such a way as to take advantage of the need and desire of people to work on the land, and at the same time preserve the economic benefit of city jobs and the other amenities of the city. It would cost no more to set up an experiment of this type than for a laboratory devoted to cancer research or atomic energy use.

We could also experiment with different types of legislative acts before they were attempted on a nation wide scale. For example, if some conservation practice or some means of increasing farm income were recommended, a few years could well be spent testing the ideas in model communities. There is no doubt in my mind that many of the headaches and failures which result from untried experiments might be saved.

Finally, I am sure that experiments would help us work out answers related to the most efficient operation of many of our social systems, such as those designed to serve education, religion, government, and the economy. Time does not permit elaboration, but I have no doubt research proposals could be worked out with just a little thought.

Let me end this rather visionary and rambling discourse on this note. I am one who sees a bright future for rural sociology. Our discipline is on a launch pad. All we need is the imagination and creativity to light the fuse which will blast us off into the orbit of our full potential.

SUCCESS FACTORS IN A RETRAINING-RELOCATION PROGRAM INVOLVING MEXICAN AMERICANS*

by David C. Ruesink and T. Brice Batson

Let's picture for a moment a typical scene which occurs frequently in Texas. Today, at least 7,000 persons living in the southern tip of Texas are looking for some kind of work.[1] At the same time about 400 miles north, an aircraft assembly plant needs over 1,000 workers but is unable to find them due to a very low unemployment rate within commuting range. This situation, common in many other parts of Texas, probably fits some area in nearly every other state.

This problem is not new. It can be traced back as far as the Industrial Revolution. However, now people's attitudes are changing relative to how manpower imbalance may be rectified. Until the 1960's voluntary migration was the chief procedure for filling labor demands. Employers recruited from distances within commuting range of their firm. Moreover, a number of small-scale attempts have been made to assist in the relocation of workers.

One of the most imaginative and successful mobility programs involves 750 South Texans who have been trained and then moved to the Dallas-Fort Worth area. This pilot project involving the cooperation of private industry and about eight government agencies was launched in order to determine the feasibility of moving South Texans to metropolitan areas for work. About 90 percent of these relocatees were Mexican Americans.

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[1] See Texas Manpower Trends for Cameron, Hidalgo, Starr, and Willacy counties published monthly.

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The purpose of this paper is to present the retraining-relocation approach used and some of the factors related to successful relocation.

On October 7, 1967, and each week for the next 52 weeks, a class of fifteen South Texans began a four-week training program to become aircraft assemblers. Training which was in one of three training centers located at Harlingen, McAllen, and Rio Grande City was conducted by instructors from Vought Aeronautics Division of Ling-Temco Vought Corporation (LTV). Upon successful completion of the training, workers and their families were relocated in the Dallas-Fort Worth area.

Sixty days after being relocated, over 93 percent of the relocatees are still employed by LTV.[2] The six innovative factors which appear to be most important as they relate to this good retention rate are:

1) Workers were screened by the Texas Employment Commission and LTV prior to entering training.

Evaluation of a heavy equipment training program by Miller and Zeller[3] will be used as a comparison with the LTV project. This West Virginia project involving 418 trainees who graduated from fourteen ten-week classes between April, 1965, and July, 1966. In that program eighteen percent of the graduates reported that they were unable to secure any type of employment after training was completed. One of the recommendations made by Miller and Zeller[4] was to screen the candidates in order to eliminate those with low success probabilities as determined by research.

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[2] The U.S. Department of Labor reports that studies indicate that most returns to the home area occur one to two months after relocation. After two months, the number of returns dwindles very rapidly. See Freedman, Audrey, "Labor Mobility Projects for the Unemployed," Monthly Labor Review. June, 1968, pp. 56-62.

[3] Miller, Robert W. and Frederick A. Zeller, Social Psychological Factors Associated with Responses to Retraining. Morgantown, West Virginia: West Virginia University, Office of Research and Development, Appalachian Center, September, 1967, p. 47.

The importance of screening applicants in South Texas is underscored by the fact that about 20 to 25 percent of all initial applicants were admitted to the training classes. Some of the other 75 to 80 percent found satisfactory employment between the time of application and an opening for training. Others took aptitude tests and were recommended for different manpower development training programs. Some were simply found unqualified for any training program and either entered an adult migration education class or sought local employment.

One impact the screening is likely to have is to attract the more qualified workers away from South Texas. More than 40 percent of the relocatees completed high school. The average educational attainment was 10.17 years with a range of five to fifteen years. Average earnings on the last job prior to entering training were $1.51 per hour. About 90 percent had non-agricultural work as their last employment.

2) Training was conducted in the area where the workers lived prior to being relocated.

One of the unique features of this pilot mobility project is the training program. Being trained in their home area for a specific job to be relocated to a known area provided an air of security for the trainee. The men became familiar with the new type of work prior to moving to a new environment. This permitted them to think about relocating as it related to the family both prior to moving and after arrival. Adjustment to the work environment was easy due in part to the confidence instilled during training.

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[4] Miller and Zeller, op. cit., p. 47.

Of the 752 who entered the training program, 68 or roughly nine percent terminated sometime during the four-week training period. Some of the men were unable to master the work, but more of them simply had second thoughts about industrial employment or moving away from South Texas.

3) Training was conducted for a specific type of job with an exact plant location known ahead of time.

This is closely coupled with the training at a home base. By knowing where they would be working they often had friends looking for housing or caring for other personal needs prior to arrival. Furthermore, trainees reported that even though the work was slightly different on the job than in a classroom, they had an adequate orientation to the work so that they had very little difficulty making the transition. When asked if they would have been willing to move before undergoing a training program, most of them stated they would not.

Where mobility projects have not been coupled with training prior to relocation, workers have reported that a job misrepresentation often occurred. One example involved a man who terminated from a different Texas mobility program because it was understood that he would be a machine operator but was assigned to painting the roof at the factory. He had neither painted nor worked at lofty heights prior to that time. He felt a training program prior to his relocating would have made the company feel more obligation to do as it had promised.

4) Money was provided to offset expenses connected with relocation.

Miller and Zeller[5] reported that a lack of money was a hindrance to many of the West Virginia trainees. Not only did they lack money to relocate, but often they did not have enough money to buy gas in order to look for employment after being trained. In the Texas program a mobility allowance was given to each worker who was unemployed at the time he applied for the training program. This included moving his household furniture, a travel allowance and additional money to pay for utility deposits, rent in advance, groceries until the first pay check was received, and other expenses incurred due to moving.

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[5] Miller and Zeller, op. cit., p. 43.

Nearly every person interviewed felt that the mobility money was extremely helpful. Most of them said they could not have moved without that assistance. Several of them thought it would even be impossible to borrow enough to be able to move. This mobility money removed mental anguish due to financial problems which often occur when moving to a new geographical location--thus freeing the worker to concentrate on adjustment.

5) Housing was located for workers by the Texas Employment Commission.

Prior to moving, each trainee filled out a form specifying his housing needs. This was sent to the Grand Prairie Texas Employment Commission (TEC) office which maintained a file of available housing within commuting distance of the aircraft assembly plant. At first it was difficult to find suitable housing available at a price range of $80-100 per month where landlords or apartment managers would rent to Mexican Americans. Within a few months apartment managers learned that these relocatees were making excellent tenants and began calling the TEC office informing them of vacancies in hopes that the next arrivals would want their apartment. Families with three or more children qualified for public housing. Single men usually went in with two or three other men to share an apartment. The most difficult worker to house was the one- or two-child family who desired a furnished apartment. Often they ended up renting unfurnished places and purchasing used furniture.

Housing was one aspect which drew a great deal of reactionary comment from respondents. Even though they knew the rent would be from $80 to $110 per month, the figures didn't mean much to them until they actually saw the pay check depleted by that amount. This was especially noticeable if trainees had lived with relatives or owned homes prior to moving.

Interviewees reported both positive and negative aspects of public housing. Relocatees liked the idea of English classes or home management courses being offered at the public housing sites. They also enjoyed having "valley folk" living in the same proximity. But many were unhappy about living in an integrated area, paying more rent when salaries were increased, or lack of privacy in their yards. For many relocatees the experience of driving some ten miles in rush-hour traffic was more than they could take.

6) LTV provided counselors who could assist the workers or their families with any occupational or personal problems encountered.

The North Carolina Fund discovered in 1966 that counseling was a critical ingredient to successful relocation.[6] Robert Lofaso, a fund project director, is quoted as saying that more post-relocation counseling is necessary and that workers need to be told not only about practical matters such as where stores and public services are located, but they need help coping with social and psychological strains. Such occurrences as yelling at the workers or kidding the Indian about being "off the reservation" are examples of matters relating to interpersonal relations which often caused the worker to give up and go back to his former residence.

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[6] "A New Place in Life for the Unskilled," Business Week. March 26, 1966, p. 112.

Counseling was also highlighted by Miller and Zeller[7] for the West Virginia program. They concluded that problematic social, psychological and economic characteristics needed attention in addition to the strictly occupational aspects of training.

LTV included two types of counseling: (1) a counselor worked with trainees and their families prior to relocation, and (2) once the workers arrived on the job, one of three LTV counselors was assigned to the class. These counselors were Mexican Americans and are all employees of LTV prior to the mobility program. They became well acquainted with the educational, economical, legal, medical and spiritual activities in the various neighborhoods where relocatees live. Their position was that of a substitute kinfolk for the new arrivals from South Texas. A few families had school children needing guidance. Several dependents needed medical care. Occasionally workers required legal council due to some infraction of the law. Several relocatees desired assistance in obtaining loans for cars, houses, or furniture.

Most reactions to the counseling ranged from neutral to extremely favorable. Many relocatees stated that they simply did not need the counselors' assistance, but some of them found the counselors very necessary when they did not know who to see about personal problems. It appears that the first relocatees relied upon them more than did the latter arrivals. As more "valley folk" were relocated, those who arrived earlier began to perform some of the same services as the counselors were doing.

Some of the terminals, however, were unhappy because they did not receive as much help from the counselors as they felt they should have had. A few perceived the counselors' job as one to help only his friends. Others indicated that they could not get much help after completing the first 60 days, which was the on-the-job training portion of the program. Thus even though counseling appeared to be less necessary as the program progressed, some terminations might have been eliminated with more counseling services.

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[7] Miller and Zeller, op. cit., p. 45.

Conclusion. The LTV program, along with its cooperation between private enterprise and government agencies, provides an excellent opportunity for studying the applicability of relocation programs. Results from this study show that for certain types of jobs and under proper conditions, South Texas residents apparently are able and willing to live in areas other than South Texas. It maybe that aircraft work has some appeal not found in other industries, but the tie to a geographical area and extended family evidently is overridden by other aspects of the value system, particularly occupational employment.

While much information remains to be analyzed, one thing appears to be quite certain--retention success in mobility projects where training and counseling was included prior to relocation has a very positive influence on trainees staying in a metropolitan area. This preconditioning period seems to provide a favorable mental attitude toward the move and the new employment by reducing anxiety in connection with the unknown.

The second facet of adjustment concerns the advantage of mobility money for relocation expenses. Financial pressure encountered by expenses for moving and setting up housekeeping in a new area is kept to a minimum; therefore, the individual finds possible what might have been (and often was) impossible. There is less hesitation in trying a new way of life as found in metropolitan areas, but successful relocation cannot be expected to just happen. It must be well planned and executed with particular attention to selection, training, counseling, housing, as well as the move.

Implications for further study. It has been established by the pilot program that pressure created by the manpower imbalance might be alleviated through retraining-relocation programs. But there still remains a major question which is unanswered. When there is a surplus of rural disadvantaged people, is it more feasible to relocate people or industry? Such a decision gets at the basic social and economic costs associated with each alternative. Therefore, a fundamental area of research revolves around the social, economic, and political costs and benefits associated with the selection of one alternative over the other.

More information is needed in order to predict how much surplus rural manpower there will be and where they will be located in order to develop training programs that are able to match labor demands and supply before an area has too many unemployed workers. Such information would require inputs from agricultural specialists and others who may be developing innovations which substitute capital and technology for labor.

Further research might include such topics as economic influence; family influence; reference group influence; more concentration on educational, occupational and economic aspirations for husbands and wives as well as children; differences between those who apply and those selected for training; employment of applicants who do not meet program requirements--particularly since such programs may be consistently attracting the most educated and employable; how the host communities react to the relocatee; and what happens when certain predetermined goals are met--such as payment of debts, saving of a certain amount of money, and so forth.

Much discussion has centered around what ought to be done for agricultural laborers. However, economic or social aspirations they hold for themselves or their families are not well known. In order to learn more about the adjustment process as applied to displaced agricultural workers, in-depth research should be conducted on those individuals who had a recent history of migrant work. Such knowledge could be an important beginning point for other types of ameliorative programs.

PESTICIDES KNOWLEDGE AMONG RETAIL DEALERS IN SELECTED ALABAMA COUNTIES*

J. E. Dunkelberger**

One of the most recently debated aspects of technological change in agriculture has been the use of agricultural chemicals. On one side in the controversy, stand the opponents of pesticides who contend that the extensive and unwise use of agricultural chemicals will eventually destroy many forms of animal life and gradually poison humans.[1] Pesticide proponents, on the other hand, maintain the use of pesticides is necessary to protect crops from attack by insects, weeds, and diseases, and thereby assure man's supply of food.[2]

A central point in this debate revolves around the proper use of pesticide materials. The unanswered question is whether pesticide users are being adequately informed about the toxic qualities of the materials they buy? Of special concern in this respect are the farm and non-farm customers who buy these materials in bulk quantities but in small amounts. For many customers, the local farm supply dealer who sells pesticide materials represents an important source of technical information. Thus, it is important to know the extent to which the dealer is knowledgeable about the materials he sells.

The dealer's informational role is especially important to people using pesticides on an irregular basis. To these customers the wide variety of brand names and formulations available present a confusing situation.[3]

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These customers look to the dealer as an informed authority from whom they can seek and receive reliable recommendations concerning their pest problems. To many of these pesticide users, the dealer probably represents a well informed expert considered familiar with local pest problems, to have available the latest information on the proper pesticides to use, and to have discussed results of different pesticides with other users.

Purpose and Procedure

Assuming the dealer serves as a major source of information for many local pesticide users and is asked by them for pesticide information, it is necessary that a close look be given the amount of pesticide knowledge dealers actually possess about these materials. The research reported here represents an attempt to measure the knowledge possessed by retail dealers who sell bulk quantities of pesticides.

Seven Alabama counties were chosen to represent different agricultural areas and a variety of pesticide needs. In addition, each county consisted of an urban center sufficiently large to provide a population of potential non-farm and urban pesticide users. Counties included in the sample were Baldwin, Barbour, Blount, Chilton, Houston, Madison and Montgomery.

A list of all dealers marketing bulk pesticides for farm and garden use in these counties was compiled. Personal interviews were conducted with all 83 dealers in the six counties during the summer of 1965.

Measuring Knowledge

Specialized pesticide knowledge was the variable of prime concern in this study. A broad definition of the term pesticide was used which included chemicals to kill plant pests, fungi and rodents, as well as, insects. The kinds of pesticide materials under discussion included those commonly subsumed under the headings of insecticides, rodenticides, fungicides, and herbicides.

Measurement of pesticide knowledge was accomplished by using two types of test questions, Table 1. One test involved a series of twenty agree-disagree questions of a true-false nature. The second test consisted of six multiple choice questions. All questions comprising both tests were designed to measure general information possessed by dealers concerning pesticide materials and not specific brand names or claims. Test questions were checked with specialists within the School of Agriculture at Auburn University to determine their applicability to Alabama pest problems, their correctness of interpretation and scoring, and their relevance to general information which dealers should possess.

Scoring of the agree-disagree questions was accomplished by assigning values of zero for every wrong answer, one for every "no" opinion and two for every correct answer. The highest possible score on this test was forty points. In contrast, the multiple choice questions pertained to recommendations for particular pest problems. Five possible answers were given to each of six test questions. Every correct answer received a score of two and every incorrect answer received a score of zero. The highest possible score on this test was twelve points. Scores for the two tests were found to be highly correlated. Thus, a single knowledge score was achieved by merely combining the two tests producing a possible range in scores of 0 to 52 points. The median point in the distribution was 28-29. This point was used to differentiate low and high scoring dealers.

Knowledge Scores

Responses to the twenty true-false questions revealed considerable variability among dealers with regards to the extent of their pesticides knowledge. No question was answered correctly by all dealers. Correct responses ranged from a high of 81 per cent to a low of 18 per cent. Only four questions were answered correctly by more than 60 per cent of the dealers. Conversely, nine questions were answered correctly by more than 60 per cent of the dealers. Conversely, nine questions were answered correctly by less than 40 per cent of the dealers in the study. These results indicated rather clearly that the level of general pesticides knowledge among dealers was limited.

An inability to provide correct information about pesticide materials was shown even more distinctly by the multiple choice test. This test was designed to indicate the kinds of advice or recommendations dealers made for treating specific pest problems. Responses to these six questions revealed that only 57 per cent of the dealers were able to give a correct answer to even the question most frequently answered correctly (question 5). Fewer than half the dealers were able to answer any of the other questions correctly. Twenty per cent or fewer dealers were able to select correct responses to three of the six questions.

Mention must be made too of the fact that 21 respondents (25 per cent) refused or were unable to answer the multiple choice questions, while only 4 respondents (5 per cent) refused or failed to attempt answers to the true-false questions. The higher proportion of no responses to the multiple choice questions probably occurred because an agree-disagree response in the true-false test allowed guessing whereas the multiple answers offered in the multiple choice test made guessing more difficult.

Dealers and Businesses

Considerable variation was found among retail businesses in the sample with regards to the characteristics of dealers and the businesses with which they were associated. The most common type of pesticide businesses contacted was the farm supply store. Thirty-two of the eighty-three businesses were of this type. Other retail pesticide businesses included nurseries, hardware and grocery stores, gins, farms, banks, commody warehouses, cooperatives, and agricultural formulators. Each of these businesses made sales of pesticides to the public and in each case were looked to for technical information by some of their customers.

Size of these retail businesses was determined from their annual gross sales of all products in 1964. Gross sales were reported for 79 businesses and ranged from a low of $10,000 to a high of $7.5 million in the case of the largest of the agricultural formulators. About one-third of the businesses reported sales totaling less than $100,000. Most of thelarger businesses with sales of more than $250,000 were located in counties which included cities such as Dothan, Huntsville, and Montgomery.

Businesses from which income information was obtained also provided estimates of gross sales from pesticides in 1964. In all but eight cases, gross pesticides receipts accounted for less than half of total gross retail sales. Moreover, these eight cases represented unique businesses and not retail store operations. Included among these were the chemical formulators, farmers and aerial applicators who retailed only a few specific types of products.

Average gross income from pesticides in 1964 among all businesses was $50,400. However, more than one-third or 29 businesses sold less than $10,000 worth of pesticides while 11 had sales totaling $100,000 or more. Considerable variation in the amount of pesticides sold existed among these businesses. A relatively few businesses accounted for the major proportion of all pesticide sales. These large volume businesses were located in the urban centers where they served both farm and non-farm customers. The proportion of total gross sales provided by pesticides represented less than 10 per cent of total gross sales for 35 businesses and less than 5 per cent for fourteen of these. Only 18 businesses or 23 per cent had pesticide sales which comprised 20 per cent or more of gross sales.

All dealers reported selling both bulk and pre-packaged pesticide materials. On the average, 70 per cent of all pesticide sales were in bulk quantities. Similarly, a high proportion of the materials sold was for farm use. A somewhat larger proportion of pesticide sales among urban businesses were in small quantities (36 per cent) than were those of businesses in rural areas (26 per cent). Business firms located in urban counties also had more customers than did those located in rural counties. The average number of customers was 255 per year for urban businesses compared to 187 for rural ones.

Analysis

The purpose of this study was to determine the nature of the association between selected characteristics of dealers and businesses related to the pesticides knowledge possessed by the primary person handling the sale of pesticides in the business. Twelve characteristics of pesticide dealers and their businesses were selected for analysis. Among the dealer characteristics considered were: (1) position in business, (2) age, (3) education, (4) years of experience selling pesticides, (5) years of farming experience, (6) role identification relative to pesticides, and (7) business progressivism. In addition, four characteristics of the retail business were considered:

(8) business organization, (9) 1964 gross sales, (10) pesticides as a per cent of 1964 gross sales, (11) number of pesticide customers in 1964, and (12) value placed on the pesticide enterprise.

Characteristics of Dealers

Position in business. Data involving the relationship between pesticides knowledge and the position held by the dealer in the retail business showed that the knowledge possessed by clerks and owner-operators was most often below the median score for all respondents than was that of dealers holding positions such as managers and officers in corporations or cooperatives. The average knowledge score was lowest for clerks at 22 and highest for corporation officers at 34. Differences between respondents in the various status positions relative to high or low knowledge test scores were statistically significant at the .01 level.

Age of dealer. An indirect relationship was observed between the age of the dealer and his knowledge of pesticide materials. The younger the individual, the more likely he was to have scored high on the knowledge test. Consideration of mean knowledge scores further supported this relationship. Dealers less than 40 years of age, had the highest average scores with progressively lower scores prevailing as age increased. In spite of the clearly observable pattern to the relationship, these differences were not statistically significant.

Education of dealer. Marked differences were observed between the amount of education possessed by the dealer and his pesticides knowledge. Dealers with 12 years of education or less (64%) registered low scores, while 75 per cent of those who graduated from college received high scores. Those with some college scored intermediate between the extremes but with test scores more similar to those of dealers with the least education. These differences were statistically significant at the .05 level.

Years of experience selling pesticides. Experience was believed to be a factor that might compensate for the lack of formal education among some dealers. These data revealed only slight support for this contention. Dealers with the highest knowledge scores tended to be neither those with the least nor the most experience. The largest proportion of persons with high knowledge scores involved dealers with 10 to 20 years of experience. Somewhat smaller proportions of dealers had high scores among those with both fewer and more years of experience. Mean scores for dealers with varying amounts of experience reflected these same differences. Dealers with the most experience actually had the lowest mean knowledge score. The differences observed were not statistically significant.

Years of farm experience. Findings for this relationship were mixed. The lowest mean knowledge score was observed among older dealers with 60 years or more of farming experience. However, people with no farming experience and those with fifteen years or less in farming displayed similar knowledge scores. Differences in pesticide knowledge among dealers with varying degrees of farming experience were not statistically significant.

Role identification scores. An interesting aspect of this study involved an attempt to sample attitudes of dealers toward their role in providing pesticide materials to their customers. In order to measure this factor, a series of seven statements concerning the dealers obligation to his customers were presented to which he was asked to respond by either agreeing or disagreeing. Provision was made for recording a no opinion response only if the respondent did not express a preference for either position. Scores were assigned the seven statements on the basis of their positive role content. The positive answer was scored 2, no opinion 1, and disagree 0. The total possible range of scores was 0-14.

Generally, these dealers indicated positive attitudes with regards to their role in dispensing pesticide materials. Only 12 respondents had scores of 8 and less. Thirty-one of the respondents had positive role scores of 12 to 14.

The distribution of dealers with differing role identifications in relation to their knowledge test scores showed only minor variations. In all cases, more than half the respondents had low knowledge scores regardless of their role identification. Mean knowledge scores also showed only very minor variations with regards to the relationship between role identification and knowledge. Dealers with weak role identifications had a mean score of 26 compared to one of 28 among people with median and strong role identification scores. The differences observed were not statistically significant.

Business progressivism. Another attitudinal dimension involved the predisposition to adopt new merchandising techniques and practices. It was hypothesized that the more progressive the business outlook the more concern the dealer would have for providing his customers with reliable pesticide information. A series of ten attitudinal statements were presented and agree or disagree responses requested. No opinion was recorded in the event the individual was unable to express a reaction to a statement. Only the progressive response was scored in this case. The possible range of scores was from 0 to 10.

The response pattern revealed for business progressivism relative to knowledge test scores was a direct one. The proportion of people having low knowledge scores was highest among those having a nonprogressive attitude toward their business. As progressivism increased, the more likely a dealer was to have a high score on the knowledge test. Mean scores reflected the same trend. Persons with nonprogressive attitudes had a mean knowledge score of 24 compared to a score of 32 for people with progressive attitudes. The relationship was statistically significant at the .01 level.

Characteristics of Businesses

Type of business organization. It was found that several different types of business organizations were involved in the retail sale of pesticide materials. In general terms, these were described as single proprietorships, partnerships, cooperatives and corporations. It was found that a direct relationship existed between the type of business structure and the knowledge the dealer had of the pesticide materials sold. Mean knowledge scores were lowest for single proprietors at 24 and highest for corporation officers at 38. A statistical test of the relationship indicated this was statistically significant at the .01 level.

1964 gross sales. It was hypothesized that a direct relationship existed between gross sales of the business and the amount of pesticide knowledge possessed by the dealer. Businesses of large size were believed more likely to have trained personnel handling pesticide materials than small businesses. The findings revealed substantial support for this hypothesis. The relationship was statistically significant at the .01 level.

Mean scores showed dealers representing businesses with gross sales from all products in 1964 of less than $100,000 scored only 24 on the knowledge test. Businesses with median gross sales ($100,000-$500,000) had personnel who achieved a mean score of 28 on the knowledge test, while large businesses with gross sales of $500,000 and more had personnel registering a mean score of 31. Seventy-six per cent of the individuals representing businesses with gross sales of less than $100,000 displayed a low knowledge score compared to only 27 per cent of those representing large businesses.

Per cent of gross sales from pesticides. One measure of the importance of pesticides within the retail business is the per cent of gross sales contributed by pesticide materials. The results of this index revealed that of the 70 dealers who supplied income information, 24 per cent had pesticide sales which accounted for 5 per cent or less of total gross sales. An additional 33 per cent had sales totaling between 6 to 10 per cent. Only 19 per cent of the businesses had pesticide sales accounting for more than 20 per cent of their total retail sales and in the majority of these cases the business was of a specialized nature. Although not statistically significant, a direction to the relationship was observable between knowledge scores and the per cent of pesticide sales. The mean score for people with less than 5 per cent of their gross sales coming from pesticides was 24 compared to a score of 32 for people with 21 per cent or more of their income from pesticide products.

Number of pesticide customers. No particular pattern or trend was observable when considering the number of pesticide customers in relationship to the knowledge scores of dealers. Mean knowledge scores were fairly consistent at 26 and 28 for businesses with different customer volumes.

Value placed on pesticide enterprise. As a final consideration, dealers were asked to evaluate the importance of pesticides in the business. The majority of dealers (68 per cent) indicated pesticides were very important to their operation. Using only the two categories of those who valued very highly versus those who placed lessor importance on this enterprise, it was found that about half of the dealers who felt pesticides were very important possessed high knowledge scores compared to 32 per cent of those who felt pesticides were of lesser importance in their business. Mean scores reflected the extent of this relationship in that those who felt pesticides were very important had an average score of 29 compared to a score of 23 for those with a lesser evaluation of their importance to the business. This relationship was statistically significant at the .10 level.

Conclusion

At the inception of this study, it was believed pesticide dealers possessed a specialist image in the minds of many of their customers, especially small farmers and non-farm residents. This image was believed similar to that of the local pharmacist, who is often asked for recommendations concerning minor health problems. Regardless of whether or not pesticide dealers actually hold such an image among their customers, it was felt desirable to determine the extent to which such an image might be justified.

Several assumptions appear in this conceptualization, not the least of which, is the operational definition of pesticide knowledge. This consisted of dealer responses to twenty true-false and six multiple choice questions. These test questions were checked by agricultural specialists for general content and correct answers, but no tests of reliability or validity were made. Knowledge scores revealed extreme variation among dealers. When analyzed relative to selected personal characteristics, only the position of the dealer in the retail business, his education and his business progressivism were found significant. Similarly, the business characteristics of business organizations and gross sales proved the most sensitive indicators of pesticides knowledge.

The conclusion suggested by these data was that the education of the dealer or person responsible for the sale of pesticides was a major factor in knowledge. In addition this characteristic was most often realized in businesses with large volume sales. Licensing of pesticide businesses is probably the only way to provide for the sound dispensing of pesticides to the public. Such a control program would undoubtedly force many smaller businesses out of the pesticides field.

FOOTNOTES

1 Rachel Carson, Silent Spring (Boston: Houghton-Mifflin Co., 1962).

2 Pesticides and Public Policy (Washington: National Agricultural Chemicals Association, 1960).

3 The official list of recognized pesticides in 1964 includes more than 125 different chemical materials marketed in a variety of forms by a number of manufacturers and formulators. An exact count of the number of trademarked pesticides on the market is impossible but estimates are that the number probably exceeds 10,000. See Donald E. H. Frear, Pesticide Handbook (State College, Pennsylvania: College of Science Publishers, 1964).

4 A somewhat similar study has been conducted in Iowa involving the knowledge and attitudes of farmers relative to agricultural chemicals. See George M. Beal, Joe M. Bohlen and Herbert G. Lingren, Behavioral Studies Related to Pesticides: Agricultural Chemicals and Iowa Farmers, Iowa State University, Special Report No. 49, Ames, Iowa, December 1966.

Table 1. Description of the True-False and Multiple Choice Questions Used to Measure Pesticide Knowledge Showing the Percentage of Correct Responses to Each Question by 83 Pesticide Dealers in Seven Selected Alabama Counties, 1965.

Knowledge Questions	Correct Response Type	Correct Response Percent
True-False Test:[1]		
1) The ammine form of 2-4-D is more volatile than the ester form of 2-4-D.	Disagree	36
2) The crop that herbicides are used on most is corn.	Disagree	67
3) 2-4-D is much more effective on broad leafed plants than it is on narrow leafed plants such as grasses.	Agree	81
4) Parathion is an organo-phosphate insecticide.	Agree	54
5) DDT is a cholorinated hydrocarbon insecticide.	Agree	46
6) About twice as much dieldrin is required to control most household pests than chlordane.	Disagree	55
7) Toxaphene - DDT is recommended by the experiment station for the control of cabbage looper.	Disagree	37
8) Chemicals are a good substitute for cultural control practices.	Disagree	36
9) Toxaphene is more toxic to honey bees than malathion.	Agree	40
10) Dodine is used most in the control of root rot on cotton.	Disagree	18
11) Liquid coppers are used mostly on peanuts in Alabama.	Agree	22
12) Probably the most toxic insecticide to man is carbaryl.	Disagree	51
13) The fungicides that are probably used most in seed treatments are the organic mercury forms.	Agree	40
14) Coumaphos will control spider mites just as good as demeton.	Disagree	22
15) The best control of boll worm can be accomplished by applying DDT when 12-15 worms per 100 terminals are found.	Disagree	30

16) A good dormant spray material for peaches is parathion, since paration will not delay budding	Disagree	37
17) 2-4-D is best applied during periods of slow plant growth	Disagree	69
18) The best cure for hog mange and lice is DDT.	Disagree	71
19) Any of the insecticides recommended for control of corn earworm in soybeans will also control the fall army-worm in soybeans.	Agree	48
20) Pyrethrins are contact insecticides made from plants.	Agree	28

Table 1 (continued)

Multiple Choice Test:[2]

Knowledge Questions	Correct Responses	
	Type	Percent
1. The insecticide that will most likely control cabbage loopers is: a. Toxaphene (DDT) b. Endrin c. Diazinon d. Dieldrin e. None of these	b. Endrin	20
2. The insecticide to use on ornamentals for the control of sucking worms is: a. Chlordane b. Cygon c. Dimenthoate d. Co-Ral e. None of these	c. Dimenthoate	12
3. The fungicide to use for the control of pecan scab when the buds are bursting and the first leaves are showing is: a. EPN b. Nabam c. Cyprex d. Dichlone e. None of these	c. Cyprex	45
4. Which of the following insecticides is not a systemic insecticide? a. Demeton b. Phorate c. Dimethoate d. Guthion e. None of these	d. Guthion	41
5. Which of the following are not herbicides? a. Bidrin b. 2-4-D c. Treflan d. Nabam e. None of these	a. Bidrin or d. Nabam	57
6. Which of the following is not true concerning the application of methyl bromide? a. Apply one pound per 100 sq. ft. b. Moderate soil moisture c. Must be applied with plaster cover sealed at edges by soil d. Soil temperature must be at least 45° when applied e. None of these	d. Soil temperature	18

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[1] Four respondents (4.8%) were administered this test but chose not to attempt answers.

[2] Twenty-one respondetns (25.3%) were administered this test but chose not to attempt answers.

THE SOCIOLOGY OF FORESTRY: RESEARCH AND PRACTICE*

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Relatively little sociological research to date has dealt with the problems of forestry. Reasons for this are varied, but stem from both professions. On the one hand, sociologists have been generally unaware of or have underestimated the fact that forestry problems existed worthy of their investigation. Furthermore, natural resources research has never been a very popular area of research for sociologists, and is probably even less popular today.

On the other hand, the forester has traditionally been a practitioner of an applied natural science. However, with such social and economic changes as increased population size, mobility, more leisure time, patterns of land use, industrialization, and increased forest use in general the "people" problem of forestry became more difficult to understand and resolve than the resource problems. Although there is a growing awareness on the part of some forest administrators and researchers of what sociologists can do for them, most foresters tend to be skeptical of sociology and social science in general. Sociological research often seems too theoretical or "far out" to have any practical value for them. Research methods are difficult for them to understand.[1] In short, the concepts and methods of sociology are foreign to most foresters.

Sociologists can make a significant contribution to the practical problems of forestry and at the same time contribute significantly to the profession of sociology. One area in which considerable experience and insights have been gained is in research pertaining to the behavioral aspects of man-caused forest fires in the South. The remainder of this paper will be primarily a description of research activities experienced by sociologists working in this applied area.

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Behavioral Studies of Man-Caused Forest Fires

One of the major problems confronting good forest management in the South today is that of preventing man-caused forest fires. The South, on an average, accounts for 65 percent of all forest fires in the United States. Approximately 98 percent of these fires are man-caused, and about 45 percent of all man-caused fires are incendiary fires -- fires set by individuals to forestry property not owned by them and without the concent of the owner.[2]

A reduction in the number of man-caused forest fires has long been a stated objective of forest protection agencies. A major problem is that of changing traditional folkways, customs, habits and unfavorable attitudes toward the forest and the use of fire. A more systematic understanding of the variables influencing man-caused forest fires is needed for forest protection agencies to design more effective prevention programs.

Early Social Science Research

Social scientists first became involved in fire prevention research in the late 1930's when the U. S. Forest Service engaged several to learn more about the underlying reasons for man-caused forest fires. The first study was conducted by James W. Curtis, a psychologist who examined the characteristic attitudes of forest residents toward the forest which they used.[3] Kaufman, a rural sociologist, studied residents of several rural communities in the Missouri Ozarks, focusing on persons with a reputation for woods-burning. Kaufman's general conclusion was that behind incendiary fires were unfavorable attitudes created by an imagined or real conflict of the natives' basic economic interest with the reforestation program conducted by the U. S. Forest Service. He recommended that the U. S. Forest Service attempt to change the unfavorable attitudes through a program encompassing education, mass propaganda, and law enforcement.[4]

John P. Shea, a psychologist, concluded that woods-burning was primarily an expression of the social frustrations of an isolated rural population with low income. His emphasis was upon the personal pleasure derived from starting fires and watching the woods burn, and recommended that the Forest Service provide recreational facilities as outlets for the frustrations.[5] Other early studies by Weltner indicated that long-established customs and unfavorable personal relations of forest residents with forestry agency personnel was highly related to incidence of fire. He recommended improving personal relations, communication, and general cooperation between protection agencies and the rural population.[6]

General conclusions of these early studies were that forest fires were related to the rural culture. In general, the findings were that fire entered and remained a part of the southern rural culture largely for economic reasons, but that a complex interplay of social and psychological factors brought about the wide variety of uses of and attitudes toward fire. However, no significant action by forest protection agencies resulted from these early findings and recommendations, and fire prevention research by social scientists was stopped in 1942. Implications were that the studies yielded information already "known" by the foresters, and that they also revealed some opinions of rural residents toward foresters that were unpalatable to the foresters.[7]

Current Research Focus

Interest in behavioral research aimed at investigating the factors contributing to the occurrence of man-caused forest fire was revived again with two studies in the late 1950's and early 1960's. An exploratory study by John B. Morris in 1958 found that the same factors indicated in the earlier efforts were still largely responsible for fire occurrence.[8] Hansbrough, in a study of two Louisiana Parishes in 1961, analyzed fire statistics to determine the patterns of fire occurrence in relation to various causative agents and then measured the association between incidence of fire and related social factors. His general conclusions were that man-caused fire occurrence is both a social and cultural phenomenon, that is, the attitudes of the rural residents result from cultural differences and conflict situations between forestry agencies on the one hand and the rural residents on the other.[9]

In November 1962, the Southern Forest Experiment Station of the U. S. Forest Service and the Social Science Research Center, Mississippi State University entered into a cooperative agreement to begin an intensified research effort into the problem of man-caused forest fires. One of the first efforts was to delineate the subject matter areas in which more focused and detailed studies were needed. This was done jointly by a forester and a sociologist, and resulted in six broad problem areas in which social science studies were to be conducted: forest fire occurrence rates and trends and socio-economic characteristics; characteristics and activities of forest publics in fire causation; forest fire prevention organizations and related agencies; formal and informal dissemination of fire prevention messages; the political and legal aspects of forest fire prevention; and the development and evaluation of fire prevention programs.[10]

Several studies in the problem areas delineated above have been conducted cooperatively by sociologists at Mississippi State and Louisiana State Universities.[11] However, as research foresters and sociologists studied and continued to develop the problem, the consensus was that more of the research efforts should be focused in one geographic area. Furthermore, research in this geographic area should cut across all the subject matter problem areas. This led to the development of the South Mississippi Pilot Project.[12]

A Pilot Project Effort

Since its inception in 1965, the pilot project area has served as a "laboratory," designed to be studied on a "before-after" basis. Studies to date have emphasized collection and analysis of data which describes the present nature of variables that appear to be important contributors to the complex human behavior resulting in indiscriminate burning of the woods. These studies have been in the area of determining the forest orientation, or the "climate of opinion" of forest residents in the area,[13] the perception-retention of forest fire prevention messages;[14] opinion leaders and the diffusion of fire prevention messages; and characteristics and activities of forest protection agencies in the area. Three rural neighborhoods in the area have been the focus of much of the research.

Some Findings from Benchmark Studies

Findings from studies conducted in the pilot project area will serve two purposes: (1) to provide a basis for planning an experimental fire prevention program, and (2) to establish a benchmark, or the point of reference, from which subsequent measures may show deviation or change.

Rural community research has resulted in a number of postulates which have implications for forest fire prevention efforts. These postulates have been set forth and strengthened by benchmark studies in the pilot area:

1. The community of residence is important to the rural resident as a source of social cohesion and primary group relationships outside the family and close-kin groups.
2. The community often is the lowest level of social organization which offers the individual the opportunity to participate in formal organizations.
3. The social contacts in the rural community play a major role in shaping the attitudes and guiding the behavior of the residents. This is particularly true of the leadership structure at the community level and below.
4. The rural community may often be typified as "cool" or "hot", or as having a "low" or "high" fire occurrence rate. This characteristic is usually recognized by those both inside and outside the community boundary.
5. Rural communities which are well integrated into the larger social structure rarely have forest fire problems.

A recent study in the pilot project area resulted in, among others, the following hypotheses: (1) a lasting change in exploitative behavior (i.e., illicit woods-burning), will be preceded by a change in underlying attitudes and beliefs; (2) fire prevention efforts should be focused upon the people who live in areas of high fire occurrence concentration;

and (2) the most successful fire prevention program makes use of the existing social structure of the group involved. Among these features are its leadership, organizational composition, and intergroup relations.[15]

Other key findings and hypotheses developed from studies of the three rural communities may be summarized as follows:

1. Members of a community with a high rate of fire occurrence, as compared to residents of a community with a low rate of fire occurrence, were characterized by more open range cattle grazing, lower levels of education, an unfavorable evaluation of activities of foresters, and an identification with the lower social classes.
2. The presence of U. S. Forest Service and Mississippi Forestry Commission personnel in the communities was known, but acquaintance with them was minimal and quite casual in nature. A closer liaison between Forest Service and Forestry Commission personnel and community residents would serve to strengthen communication of fire prevention messages.
3. Television, signs, and posters - in contrast to informal methods - are the media by which fire prevention messages are most frequently received, but only about half of the respondents were reached in this manner. Informal sources are not fully utilized in the work being done to prevent fires.
4. Perception and retention of fire prevention messages was found to be related to the respondents' attitude toward forestry, which in turn was related positively to high income, high education and related variables. Individuals perceive-recall those fire prevention messages which are congruent with their existing beliefs and attitudes. Fire prevention programs designed to

change forest residents behavior must be cast as to fall within their value orientations if they are to achieve maximum effectiveness.

5. Individual residents, like communities, may be typed in terms of forest conservation orientation as to "forest exploiters" or "forest conservationists". This typing will result in a continuum along which individuals may be placed.
6. A lasting change in exploitative behavior will be preceded by a change in underlying attitudes and beliefs. One of the first strategies suggested is that of working through the norms; that is, the attitudes, values and beliefs of the people who live in high incendiarism areas.

Planning an Experimental Program

As originally conceived the pilot project involved three distinct but closely interrelated areas of activity: (1) collecting benchmark data; (2) executing a program of action based on the benchmark data; and (3) evaluating the effectiveness of the action program. Phase one of the process has been completed. Sociologists have spent a tremendous amount of time and effort in working with foresters to follow through with phases two and three.

An initial plan for phases two and three was drawn up by a sociologist and a forester-sociologist, working in cooperation with other sociologists and foresters. This plan consisted of a comprehensive experimental action-research program in which (1) a program of action in community resource development was to be directed toward three contiguous rural communities for which benchmark data is available; (2) A participant observer would serve as the catalyst of the action program and would provide continuous documentation of the program and other normal prevention activities as they occurred; (3) subsequent surveys would be made of the benchmark population; and (4) evaluation of the action program in terms of its effectiveness in preventing man-caused forest fires.

It is not possible or appropriate at this time to go into all the details of the planned action program. However, the program revolved around three major types of actions for which the participant observer would serve as the catalyst:

1. Improve the coordination of forestry and related agency activities which involved the local community residents and natural resources.
2. Provide a link between the residents of high fire occurrence areas and forest protection agencies.
3. Assist the appropriate agencies in planning and executing more specific programs at the local level; help the local residents to develop available resources, both human and natural.

The plan of action as originally proposed was not accepted by forest administrators. One of the major criticisms of the plan was that it was too intangible to be considered as forest fire prevention. Efforts are now being made to develop a more focused version.

A Problem of Research Interpretation

Although sociologists and foresters have come a long way in working together on the problem of man-caused forest fires, the problems which have confronted applied research through the years are still evident.[16] If the efforts of sociologists and foresters are to be mutually productive, then the efforts of research and application must be tied more closely together. One approach to this is through what has been described as the research interpretation process.[17]

The research interpretation process is an attempt to provide closer collaboration between the researcher and the practitioner and to promote a greater feeling of empathy between the two. For this process to be effective, however, there must be a clear recognition and understanding of the roles of the researcher and those of the client agency or practitioner.[18] Depending upon the overall design of the undertaking, critical problems may develop in any one or all of several stages including selection and definition of the research problem, developing a research design, conduct of the research, interpretation of research results, application of research findings into action programs, and evaluation of the action program.

Approaches to Research Interpretation

A number of approaches have been undertaken by the forest fire prevention project staff to establish a research interpretation process between foresters and sociologists. One approach was that of a research seminar for forest administrators and researchers. The seminar was conducted by research sociologists and included discussions on the uses of social science research, social science research methods, and the treatment of social science research data.

Another approach to the research interpretation process has been that of participation in professional societies and other types of professional meetings. Foresters have attended and participated in professional sociological meetings, and in turn sociologists have participated in professional forestry meetings. There is a research committee of the Rural Sociological Society concerned with the sociological aspects of natural resource development. Foresters have actively participated in meetings of this committee, as well as presented papers at other sections of the Society meetings.

A third approach to the process has been through graduate training programs. A number of masters theses and doctoral dissertations have been written from research on the behavioral aspects of forest fire prevention. Two persons with degrees in forestry have received graduate degrees in sociology. One of these assumed a position on the project after graduation.

The South Mississippi pilot project, emphasizing the experimental action program, is a fourth approach to the process of research interpretation. Although it may pose many problems in itself, the experimental research approach may still be one of the most effective ways for the researcher and the practitioner to work together on interdisciplinary problems.[19] When action programs are involved the researcher and practitioner must, at a minimum, work together in the various phases of planning, action, evaluation and dissemination of results.[20]

In summary, how sociologists and foresters can work together most effectively should always be a concern. This is necessary if the practical problems are to be recognized, if significant research is to be done and interpreted, and if solutions to the problems are to be forthcoming.

FOOTNOTES

1. George R. Fahnestock, "Forestry and The Social Sciences: A Forester's View," *Journal of Forestry*, LXVI (January, 1968), pp. 22-25.

2. Kenneth P. Davis, *Forest Fires: Control and Use* (New York: McGraw-Hill Book Co., Inc., 1959), pp. 233-234.

3. James W. Curtis, "A Study from the Psychological Viewpoint of Factors Influencing Fire Occurrence on the Cumberland National Forest in Kentucky" (Washington: U.S. Department of Agriculture, Forest Service, 1938). (Mimeographed.)

4. Harold F. Kaufman, "A Psycho-Social Study of the Course and Prevention of Forest Fires in the Clark National Forest' (Washington: U.S. Department of Agriculture, Forest Service, 1938). (Mimeographed.)

5. John P. Shea, "Man-Caused Forest Fires: The Psychologist Makes a Diagnosis" (Washington: U.S. Department of Agriculture, Forest Service, 1939). (Mimeographed.)

6. George H. Weltner, "Wakulla-Vernon Forest Study" (Atlanta: U. S. Department of Agriculture, U.S. Forest Service, 1942). (Mimeographed.)

7. Fahnestock, *op. cit.*, p. 25.

8. John B. Morris, "Preliminary Investigation of Huma Factors in Forest Fire" (Oxford, Mississippi: U. S. Forest Serviceand the University of Mississippi, 1958). (Mimeographed.)

9. Thomas A. Hansbrough, *A Sociological Analysis of Mn-Caused Forest Fires in Louisiana*, Louisiana State University dissertaion, 1961 (Ann Arbor, Michigan: University Microfilms, 1964).

10. George R. Fahnestock and Harold F. Kaufman, "Development of Effective Forest Fire Prevention in the Southern States' (New Orleans: U.S. Forest Service, Southern Forest Experiment Station 1964). (Mimeographed.)

11. For example, see Arthur R. Jones, M. Lee Taylor, ad Alvin L. Bertrand, *Some Human Factors in Woods Burning* (Baton Roge: LSU Agricultural Experiment Station Bulletin No. 601, Augus, 1965). Andrew W. Baird, *Attitudes and Characteristics of Foras Residents in Three Mississippi Counties* (State College: Social Scence Research Center, Preliminary Report No. 8, May, 1965); Lucy W. Cle and Harold F. Kaufman, *Socio-Economic Factors and Forest Fires in Ississippi Counties* (State College: Social Science Research Center Preliminary Report No. 14, December, 1966).

12. Andrew W. Baird and Harold F. Kaufman, An Experiment in the Prevention of.Man-Caused Fires," *Forest Farmer* (January, 1967), pp. 9, 20-23.

13. Max L. Doolittle, "Forest Residents and Forest Fire: A Case Study Approach" (unpublished Master's thesis, Mississippi State

14. B. Eugene Griessman and Alvin L. Bertrand, *Factors Related to Communication of Forest Fire Prevention Messages: A Study in Selected Rural Communities* (Baton Rouge: Louisiana State University, Agricultural Experiment Station Bulletin No. 623, September, 1967).

15. Doolittle, *op. cit.*

16. For example, see Emory J. Brown, "The Professional Practitioner Role of Rural Sociologists" *Rural Sociology* 32 (June, 1967), pp. 204-214; and A. W. Bouldner, "Explorations in Applied Social Science," in A. W. Goldner and S. M. Miller (Eds.), *Applied Sociology: Opportunities and Problems* (New York: The Free Press, 1965), Chapter 1.

17. Harold F. Kaufman, Frank D. Alexander, and Herbert A. Aurback, "A Case Study in Research Interpretation," *Rural Sociology* 22 (June, 1957), pp. 156-159.

18. Harold F. Kaufman, "A Perspective for Rural Sociology," *Rural Sociology* 28 (March, 1963), pp. 1-17.

19. Harold F. Kaufman, Robert A. Polson, and Charles E. Ramsey, "The Role and Function of Rural Sociology," *Sociologia Ruralis* 4 (No. 3/4, 1964), pp. 379-382.

20. George W. Fairweather, *Methods for Experimental Social Innovation* (New York: John Wiley & Sons, Inc., 1967), pp. 3-36.